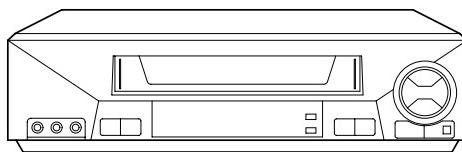
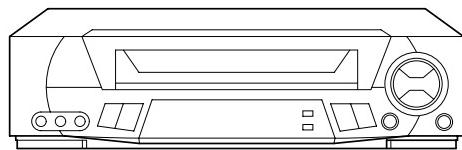


# SHARP SERVICE MANUAL

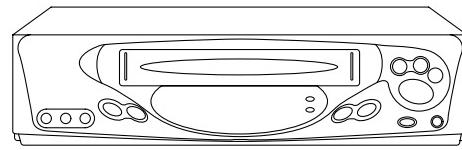
S20W7VC-A415U



VC-A415U



VC-H815U



VC-H817U/H818U

**VHS VIDEO CASSETTE RECORDER**

**VC-A415U  
VC-H815U  
VC-H817U  
VC-H818U**

## MODELS

In the interests of user-safety (Required by safety regulations in some countries) the set should be restored to its original condition and only parts identical to those specified be used.

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VC-H815U/H817U/H818U ..... Models for Canada  
VC-A415U/H815U/H818U ..... Models for U.S.A.

**SHARP CORPORATION**

This document has been published to be used for  
after sales service only.  
The contents are subject to change without notice.

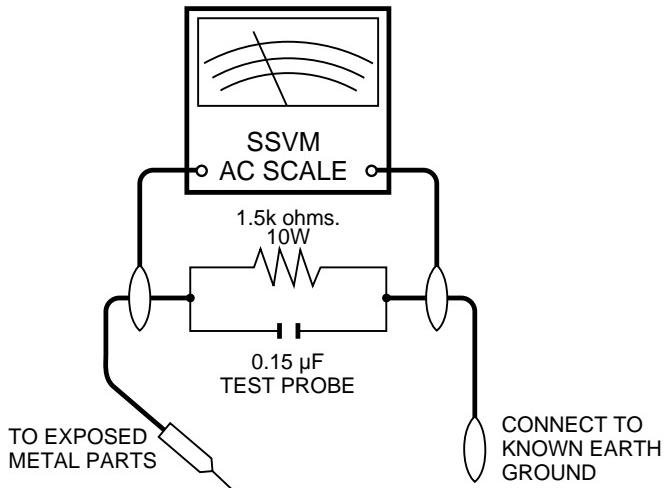
## IMPORTANT SERVICE NOTES

### BEFORE RETURNING THE VIDEO CASSETTE RECORDER

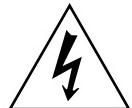
Before returning the video cassette recorder to the user, perform the following safety checks.

1. Inspect all lead dress to make certain that leads are not pinched or that hardware is not lodged between the chassis and other metal parts in the video cassette recorder.
2. Inspect all protective devices such as non-metallic control knobs, insulation materials, cabinet backs, adjustment and compartment covers or shields, isolation resistor/capacitor networks, mechanical insulators etc.
3. To be sure that no shock hazard exists, check for current in the following manner.
  - Plug the AC line cord directly into a 120 volt AC outlet (Do not use an isolation transformer for this test).
  - Using two clip leads, connect a 1.5k ohm, 10 watt resistor paralleled by a 0.15 $\mu$ F capacitor in series with all exposed metal cabinet parts and a known earth ground, such as a water pipe or conduit.
  - Use an SSVM or VOM with 1000 ohm per volt, or higher, sensitivity or measure the AC voltage drop across the resistor (See Diagram).
  - Move the resistor connection to earth exposed metal part having a return path to the chassis (antenna, metal cabinet, screw heads, knobs and control shafts,

etc.) and measure the AC voltage drop across the resistor. Reverse the AC plug on the set and repeat AC voltage measurements for each exposed part. Any reading of 0.45V rms (this corresponds to 0.3mA rms AC.) or more is excessive and indicates a potential shock hazard which must be corrected before returning the video cassette recorder to the owner.



**WARNING : TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.**



### CAUTION

RISK OF ELECTRIC SHOCK  
DO NOT OPEN



CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK. DO NOT REMOVE COVER. NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.



This symbol warns the user of uninsulated voltage within the unit that can cause dangerous electric shocks.



This symbol alerts the user that there are important operating and maintenance instructions in the literature accompanying this unit.



**CAUTION:**  
This symbol mark means fast operating fuse.  
For continued protection against risk of fire, replace only with same type fuse F901 (3.0A, 125V).

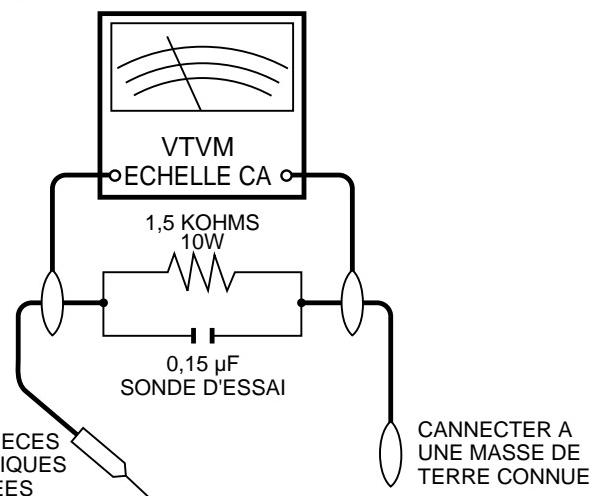
## NOTES DE SERVICE IMPORTANTES

### AVANT DE RENDRE LE MAGNETOSCOPE

Avant de rendre le magnétoscope à l'utilisateur, effectuer les vérifications de sécurité suivantes.

1. Vérifier toutes les gaines de fil pour être sûr que les fils ne sont pas pincés ou que le matériel n'est pas coincé entre le châssis et les autres pièces métalliques dans le magnétoscope.
2. Vérifier tous les dispositifs de protection tels que les boutons de commande non métalliques, les matériaux d'isolement, le dos du coffret, les couvercles de compartiment et ajustement ou les boucliers, les réseaux de résistance / condensateur d'isolement, les isolateurs mécaniques, etc.
3. Pour être sûr qu'il n'y a aucun risque de choc électrique, vérifier le courant de fuite de la manière suivante.
  - Brancher le cordon d'alimentation secteur directement dans une prise de courant de 120 volts. (Ne pas utiliser de transformateur d'isolement pour cet essai).
  - Utiliser deux fils à pinces et connecter une résistance de 10 watts 1,5 kohm en parallèle avec un condensateur de 0,15 µF en série avec des pièces du coffret métallique exposées et une masse de terre connue telle qu'un tuyau ou un conduit d'eau.
  - Utiliser un VTVM ou VOM avec une sensibilité de 1000 ohms par volt ou plus ou mesurer la chute de tension CA entre la résistance (voir diagramme).
  - Déposer la connexion de la résistance à toutes les

pièces métalliques exposées ayant un parcours de retour au châssis (connexions d'antenne, coffret métallique, têtes de vis, boutons et arbres de commande, etc.) et mesurer la chute de tension CA entre la résistance. Inverser la fiche CA (une fiche intermédiaire non polarisée doit être utilisée à seule fin de faire ces vérifications.) sur l'appareil et répéter les mesures de tension CA pour chaque pièce métallique exposée. Toute lecture de 0,45 Vrms (ceci correspond à 0,3 mA rms CA) ou plus est excessive et signale un danger de choc qui doit être corrigé avant de rendre le magnétoscope à son utilisateur.



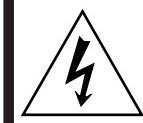
**ATTENTION: POUR REDUIRE LES RESQUES D'INCENDIE OU DE CHOC ELECTRIQUE, NE PAS EXPOSER CET APPAREIL A LA PLUIE OU A L'HUMIDITE.**



**ATTENTION**  
RISQUE DE CHOC ELECTRIQUE  
NE PAS OUVRIR



ATTENTION: AFIN DE REDUIRE LES RISQUES DE CHOC ELECTRIQUE, NE PAS RETIRER LE COUVERCLE, AUCUN ORGANE INTERNE NE PEUT ETRE REPARÉ PAR L'UTILISATEUR. CONFIER L'APPAREIL A UN DEPANNEUR QUALIFIE.

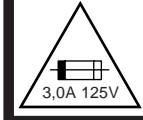


Ce symbole signale à l'utilisateur la présence d'une tension non isolée à l'intérieur de l'appareil qui peut être la cause de secousses électriques dangereuses.



Ce symbole avertit l'utilisateur que des instructions importantes relatives à l'utilisation et à l'entretien se trouvent dans le manuel accompagnant l'appareil.

#### PRECAUTION:



Cette marque indique le fusible à action instantanée. Pour la protection continue contre le risque d'incendie, ne remplacer que par le fusible type F901 (3,0A, 125V).

## PRECAUTIONS IN PART REPLACEMENT

***When servicing the unit with power on, be careful to the section marked white all over.***

***This is the primary power circuit which is live.***

When checking the soldering side in the tape travel mode, make sure first that the tape has been loaded and then turn over the PWB with due care to the primary power circuit.

Make readjustment, if needed after replacement of part, with the mechanism and its PWB in position in the main frame.

### **(1) Start and end sensors: Q701 and Q702**

Insert the sensor's projection deep into the upper hole of the holder. Referring to the PWB, fix the sensors tight enough.

### **(2) Photocoupler: IC901**

Refer to the symbol on the PWB and the anode marking of the part.

### **(3) Cam switches A and B: D708 and D709.**

Adjust the notch of the part to the white marker of the symbol on the PWB. Do not allow any looseness.

### **(4) Take-up and supply sensors: D707 and D706.**

Be careful not to confuse the setting direction of the parts in reference to the symbols on the PWB. Do not allow any looseness.

## 1. GENERAL INFORMATION

### 1-1 FEATURES

Only for VC-H815U, VC-H818U

- VHS Hi-Fi Stereo Sound
- Built-in MTS (Multi-channel TV Sound) Decoder

Only for VC-H818U

- Universal Remote Control with light up buttons

#### Common Features

- \* The VCR Plus+ Programming System
- 400 Times Rewind Speed to Fast Forward and Rewind.
- EZ Set Up
- S-VHS Quasi Playback
- Double-Azimuth 4-Heads
- 19μ Clear Picture System (in EP mode)
- HQ System for Better Resolution and Color Reproduction
- Multi-Language (English/Spanish/French) OSD (On Screen Display) with Menu Screen Guidance
- 181-channel PLL Quartz Synthesized Random Access Tuner with Automatic Channel Setting
- Quick Start with Full Loading Mechanism
- 1-Year, 8 Event Programmable Timer
- Simple Recording Timer

- Universal Remote Control
- Sharp Super Picture
- 60 seconds Timer Backup
- Field-Still/Variable Slow/Frame Advance
- Real-Time Counter
- Automatic Daylight Saving-Time (D.S.T.) Adjustment
- Blue Screen Noise Elimination
- Auto Tracking Control System
- Digital Program Search System (DPSS)
- Skip Search
- Instant Replay
- Exact Rec
- Tape Remaining
- One-Touch Rental Rewind
- Auto Zero Back
- Recorded Section Auto Repeat
- Full Automatic Playback
- Tamper Proof
- Up to 8 Hours of Recording and Playback (with T-160 cassette)
- Automatic Head Cleaning System
- Built in Front AV Jacks

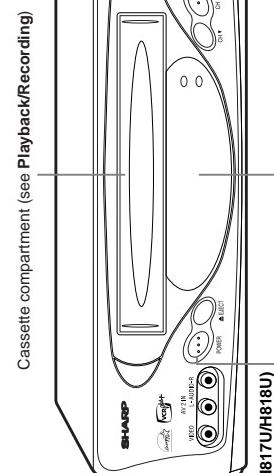
### 1-2 SPECIFICATIONS

- Format: VHS NTSC Standard
- Video Recording System: Rotary, Two-Head Helical Scanning
- Number of Video Heads: 4
- Video Signal Standard: NTSC Color System
- Audio Recording System: 1 Stationary Head for Linear Audio  
2 Rotary Heads for Hi-Fi stereo (Only Hi-Fi models)
- Tape Width: 12.7 mm (1/2 inch)
- Tape Speed: (SP) 33.35 mm/sec. (1.31 i.p.s.)  
(LP) 16.67 mm/sec. (0.66 i.p.s.) (playback only)  
(EP) 11.12 mm/sec. (0.44 i.p.s.)
- Maximum Recording Time: (SP) 160 min. (T-160)  
(EP) 480 min. (T-160)
- Channel Coverage: VHF 2-13  
UHF 14-69  
CATV 1-125
- Antenna Input: 75 Ohm
- Video Input: 0.5 to 2.0 Vp-p, 75 Ohm unbalanced
- Video Output: 1.0 Vp-p, 75 Ohm unbalanced
- Audio Input: -8 dBs, 47 kOhm unbalanced (0 dBs = 0.775 Vrms)
- Audio Output: -8 dBs, 1 kOhm unbalanced (0 dBs = 0.775 Vrms)
- Hi-Fi Audio (Only for Hi-Fi models): Dynamic Range: 90 dB  
Frequency Response: 20 Hz-20 kHz
- Memory Backup: 60 seconds
- Operating Temperature: 5°C to 40°C (41°F to 104°F)
- Storage temperature: -20°C to 60°C (-4°F to 140°F)
- Power Source: 120 V AC, 60 Hz
- Power Consumption: 18 W
- Weight: 2.8 kg (6.2 lbs)
- Dimensions (approx.): 360 (W) x 92.5 (H) x 255 (D) mm (14-3/16" x 3-41/64" x 10-3/64") (VC-A415U)  
360 (W) x 92.5 (H) x 256 (D) mm (14-3/16" x 3-41/64" x 10-5/64") (VC-H815U)  
360 (W) x 92.5 (H) x 254.5 (D) mm (14-3/16" x 3-41/64" x 10-1/32") (VC-H817U/H818U)
- Accessories included: 75 ohm coaxial cable, Operation manual, Infrared remote control, Battery (2 pcs.), Warranty Card
- Note: Specifications are subject to change without notice.

## 1-3 LOCATION OF MAJOR COMPONENTS AND CONTROL

### Major Components of Your VCR

### Remote Control



Cassette compartment (see Playback/Recording)

**POWER button**  
(When pressed to turn on the VCR, some indicators on the Multi-Function display light up, and the Multi-Function display brightens. When the power is turned off, the Multi-Function display dims.)

#### Multi-Function Display (explained throughout the operation instructions)

When the power is on, each time **DISPLAY** is pressed, the Multi-Function display changes as follows:

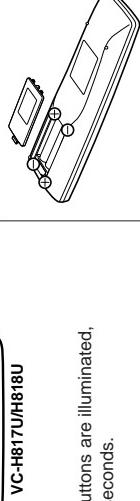
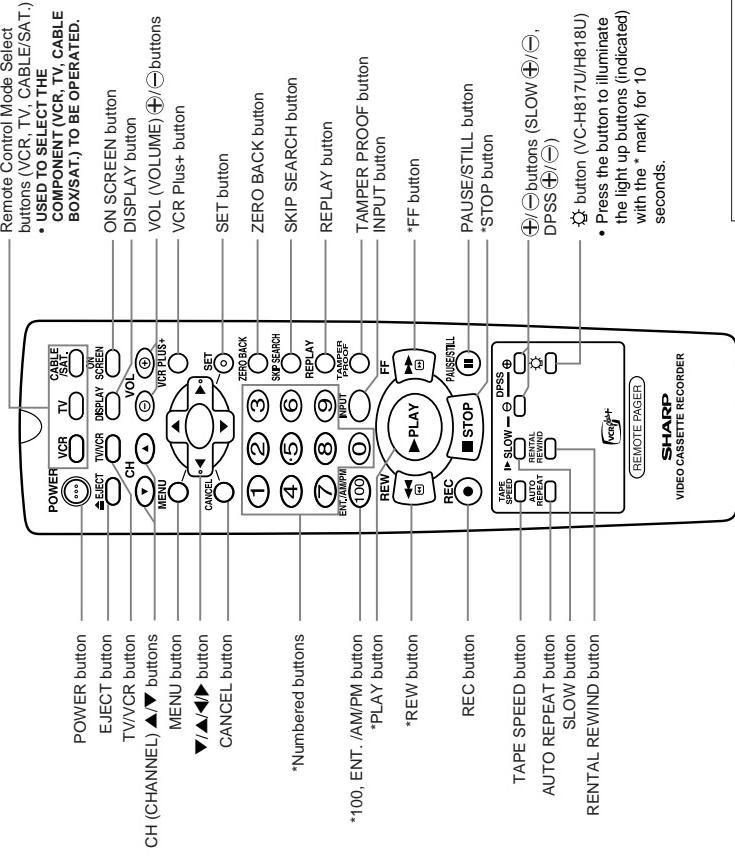


**NOTE**

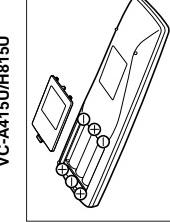
- Tape counter is displayed during playback, fast forward or rewind operation.
- When the power is turned off, the clock is displayed and the Multi-F-function display becomes darker.

**NOTE**

- The display will return to the original mode (counter or clock display) 3 seconds after the VCR enters the operation mode.



VC-A415U/H815U



VC-H817U/H818U

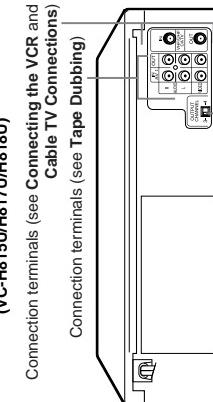
#### Inserting the Batteries

Make sure that the batteries have been properly installed first. Fit two batteries type "AA". If the remote control stops working, fit new batteries. Ensure the batteries are fitted correctly, matching the polarities (+/-) indicated in the remote control.

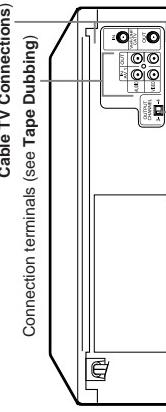
**NOTE**

- After changing the batteries in the remote control, the code settings for the TV, cable box and Digital Satellite Receiver must be re-entered.
- The operating life of the batteries will shorten if the Light Up function is frequently used.
- The operating life of the batteries will shorten if the Remote Pager function is frequently used.
- Do not subject the remote control to shock, water or excessive humidity.
- The remote control may not function if the VCR sensor is in direct sunlight or any other strong light.
- Incorrect use of batteries may cause them to leak or burst. Read the battery warnings and use the batteries properly.
- Remove the batteries if the remote control will not be operated for an extended period of time.
- If the remote control does not function properly when new batteries are installed, remove the batteries and keep pressing any button for 10 seconds before re-installing them.

VC-H817U/H818U



(VC-H815U/H817U/H818U)  
Connection terminals (see Connecting the VCR and Cable TV Connections)  
Connection terminals (see Tape Dubbing)



(VC-A415U)  
Connection terminals (see Connecting the VCR and Cable TV Connections)  
Connection terminals (see Tape Dubbing)

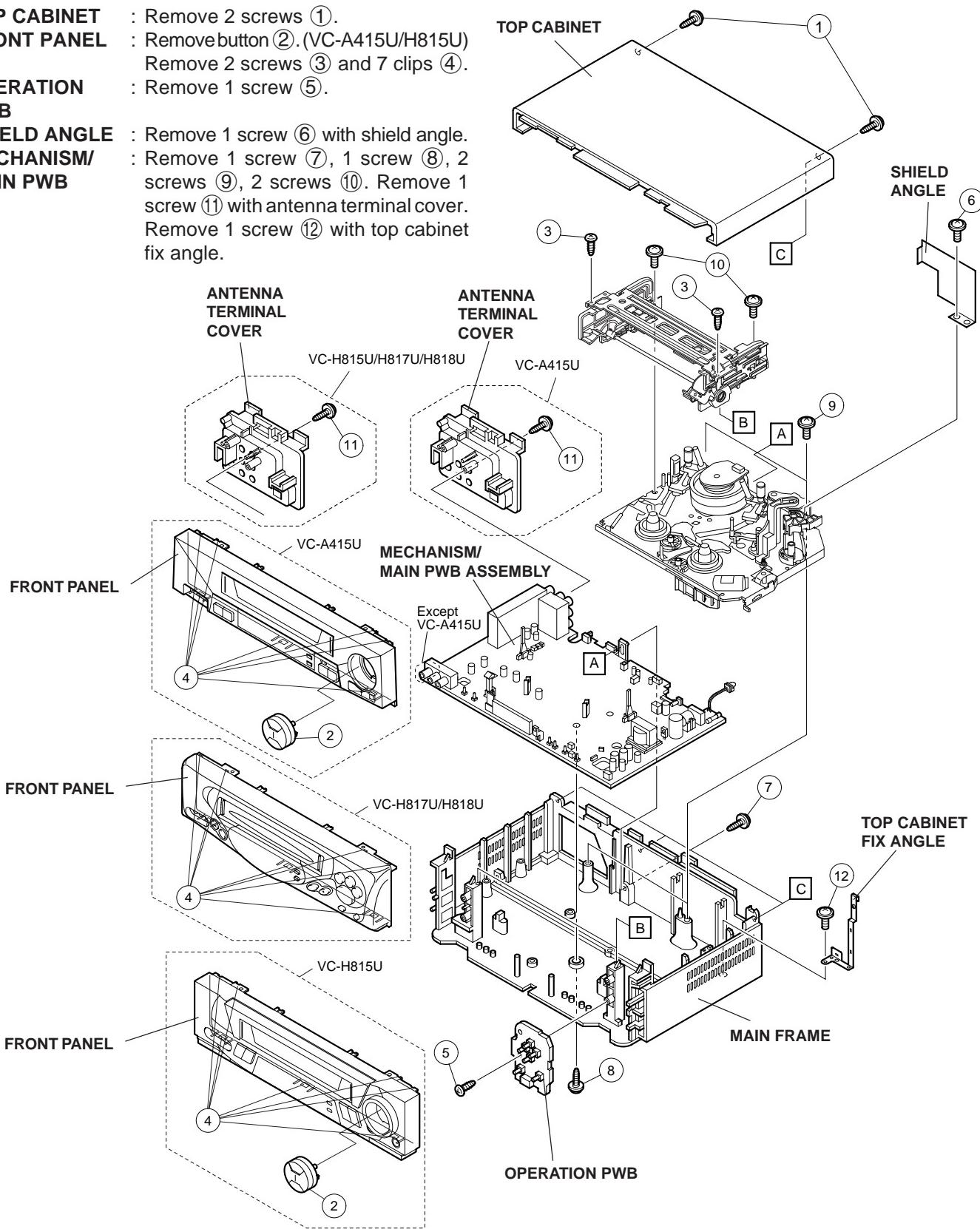
3 ↔ 4 OUTPUT CHANNEL selector  
(see Setting the 3 ↔ 4 Output Channel Selector)

- 3 ↔ 4 OUTPUT CHANNEL selector  
(see Setting the 3 ↔ 4 Output Channel Selector)

## 2. DISASSEMBLY AND REASSEMBLY

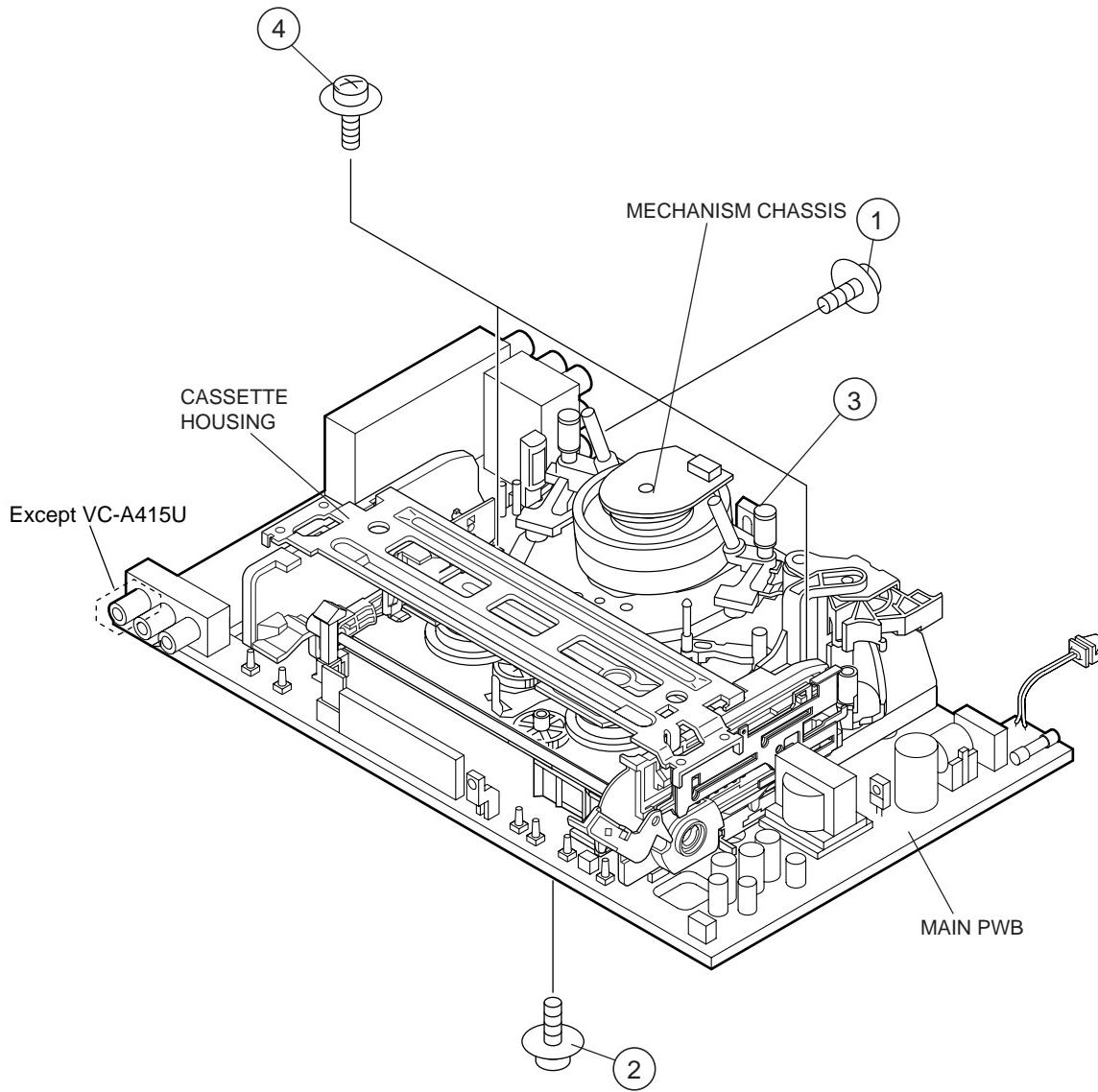
### 2-1 DISASSEMBLY OF MAJOR BLOCKS

- |                                         |                                                                                                                                                                                               |
|-----------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>TOP CABINET</b>                      | : Remove 2 screws ①.                                                                                                                                                                          |
| <b>FRONT PANEL</b>                      | : Remove button ②.(VC-A415U/H815U)<br>Remove 2 screws ③ and 7 clips ④.                                                                                                                        |
| <b>OPERATION PWB</b>                    | : Remove 1 screw ⑤.                                                                                                                                                                           |
| <b>SHIELD ANGLE MECHANISM/ MAIN PWB</b> | : Remove 1 screw ⑥ with shield angle.<br>: Remove 1 screw ⑦, 1 screw ⑧, 2 screws ⑨, 2 screws ⑩. Remove 1 screw ⑪ with antenna terminal cover.<br>Remove 1 screw ⑫ with top cabinet fix angle. |



## 2-2 DISASSEMBLING THE MECHANISM/MAIN PWB ASSEMBLY

1. When removing the mechanism from the main PWB, remove the antenna cover 1 screw ①, and remove the antenna cover.  
Remove the PWB bottom plate 1 screw ②.  
Remove the FFC cable (AA, AD, AH) ③ which connecting the PWB and the mechanism.  
Take out vertically the mechanism so that it does not damage the adjacent parts.
2. Removing the mechanism and cassette housing.  
Remove 2 screws ④ fixing the cassette housing to the mechanism, and remove the cassette housing.



## 2-3 CARES WHEN REASSEMBLING

### INSTALLING THE CASSETTE HOUSING

When the cassette housing is installed on the mechanism, the initial setting is essential condition.

There are two initial setting methods, namely electrical and mechanical.

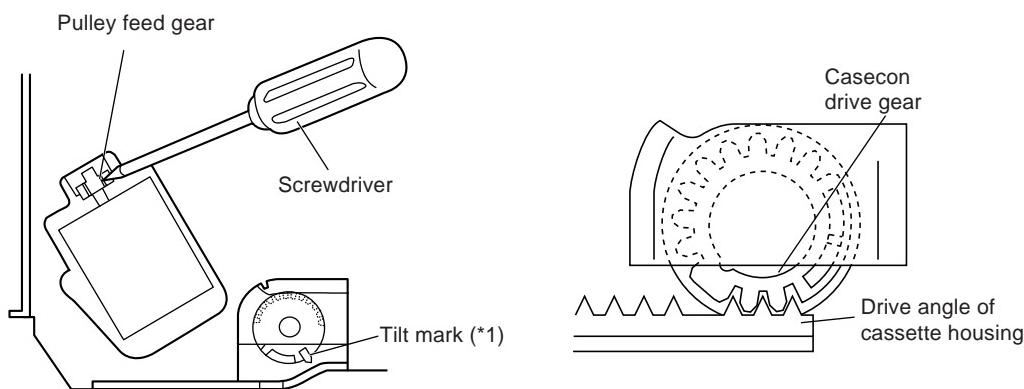
#### 1. Electrical initial setting

So as to perform initial setting of mechanism execute the Step 1 of Installation of cassette housing. After ascertaining the return to the initial setting position (\*1) install the

cassette housing. (Conditions: When mechanism and PWB have been installed)

#### 2. Mechanical initial setting

Feed the pulley feed gear of loading motor with screw driver. After ascertaining the return to the initial set position (\*1) install the cassette housing in the specified position. (This method is applied only for the mechanism.)

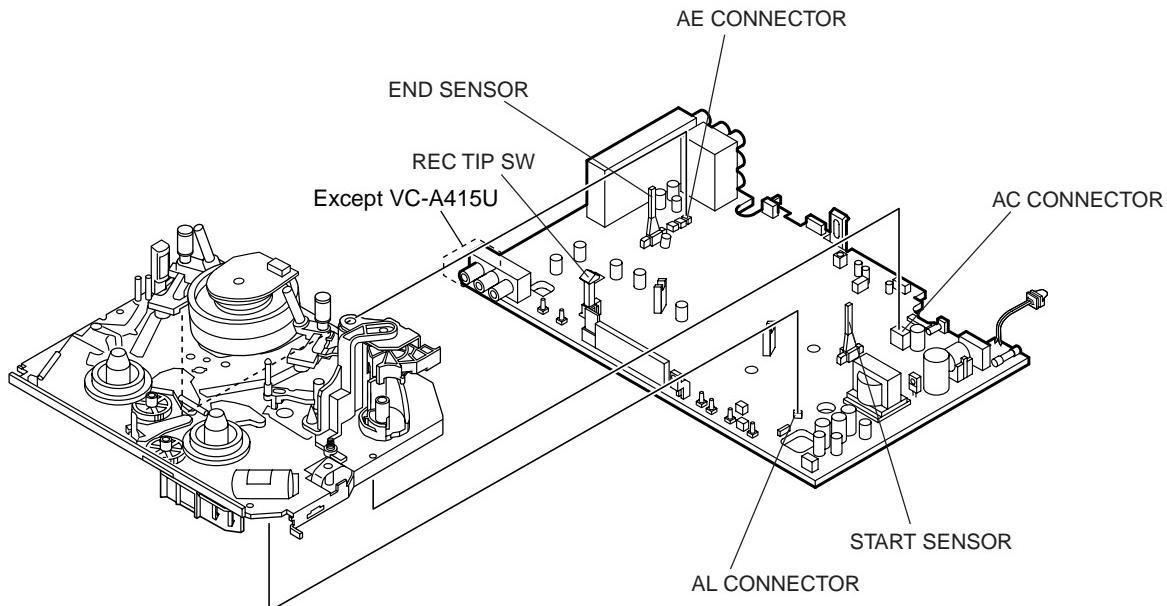


### INSTALLING THE MECHANISM ON PWB

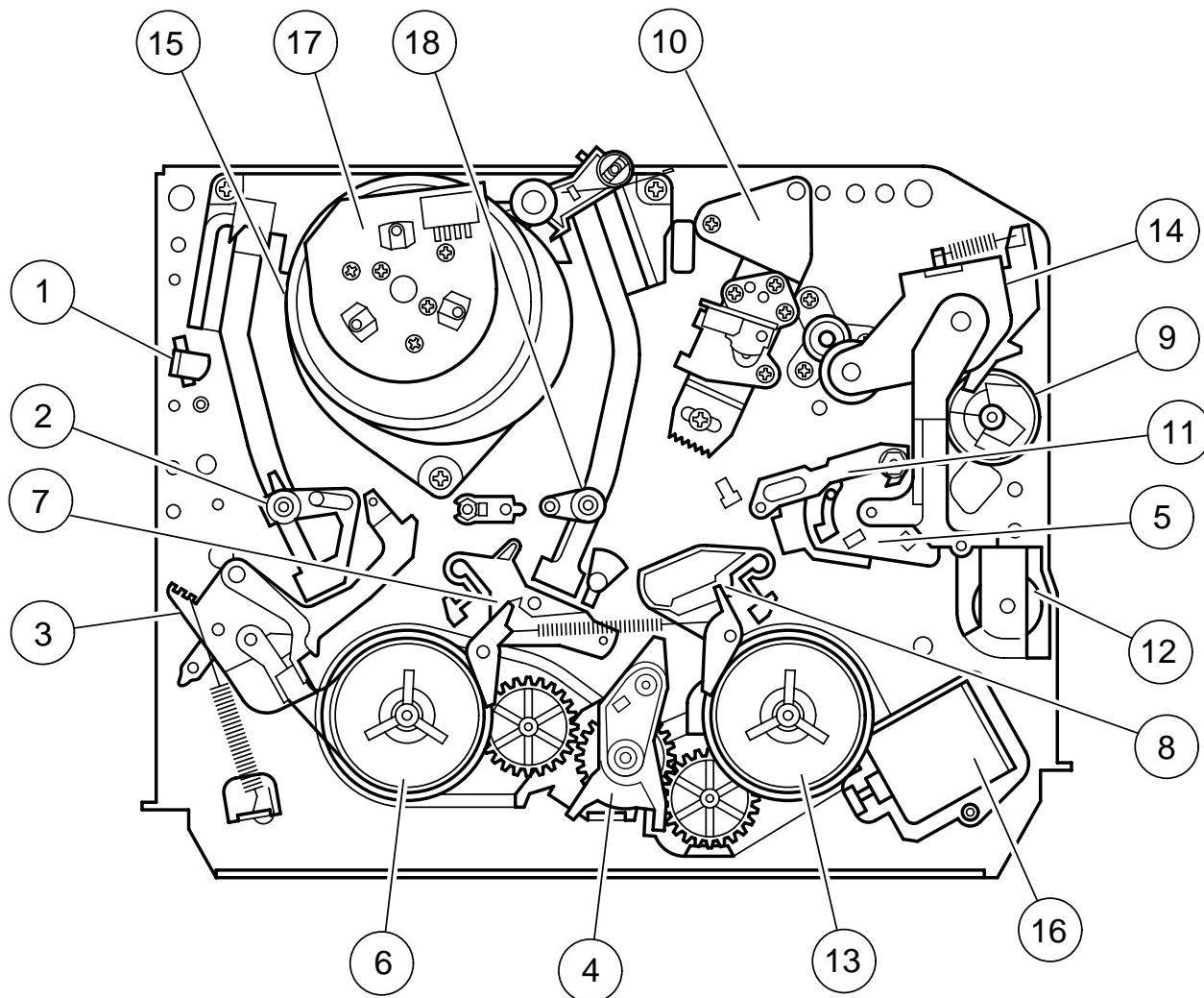
Lower vertically the mechanism, paying attention to the mechanism edge, and install the mechanism with due care so that the parts are not damaged. So as to fix the mechanism to the main PWB install two housings. (Fit the antenna cover to one of them. For other, fix the vicinity of loading motor and solder joint side of main PWB.) Connect again the FFC cable (AA-MH, AD-ME, AH-MH) between the mechanism and the main PWB.

### PARTS WHICH NEED PARTICULAR CARE

When installing the mechanism chassis on the PWB unit, take care so as to prevent deformation due to contact of mechanism chassis with REC TIP SW.

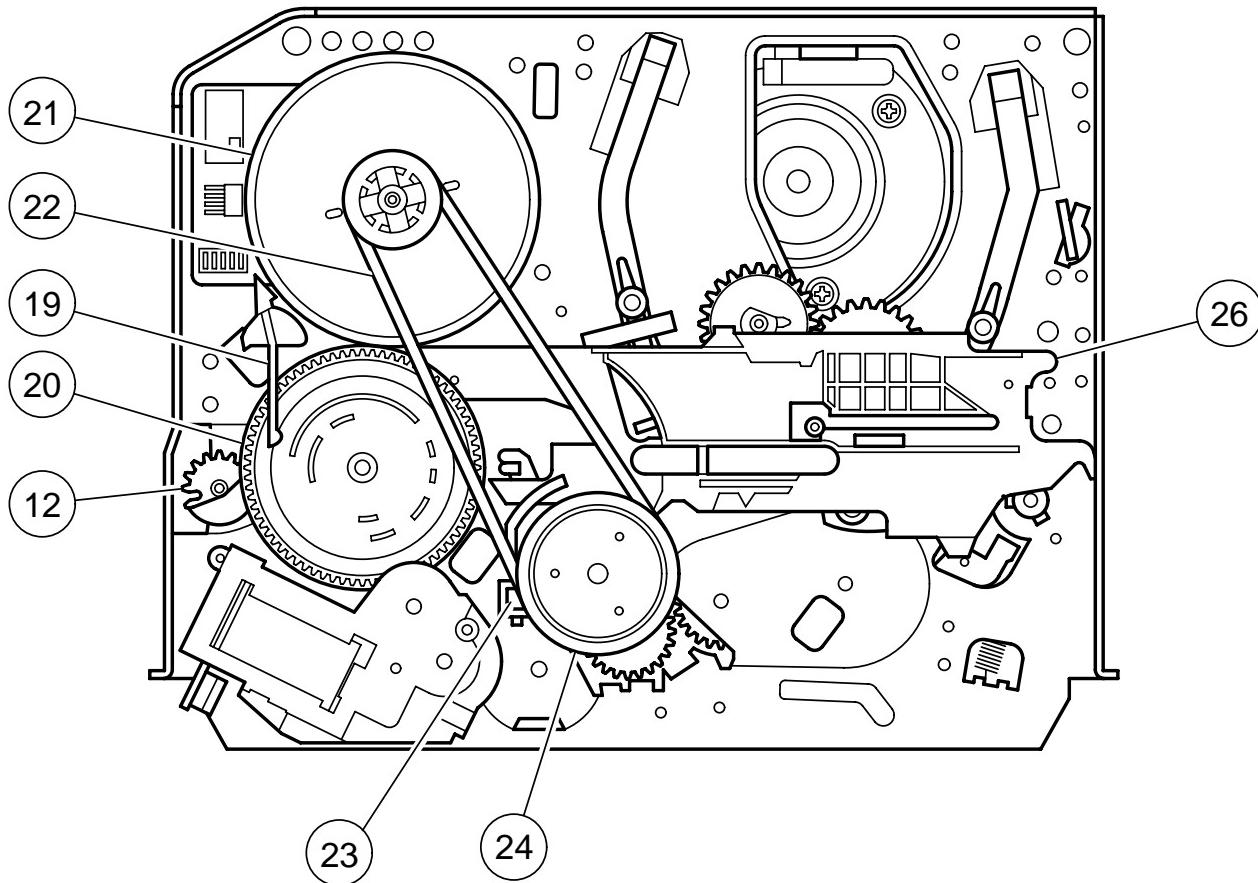


### 3. FUNCTION OF MAJOR MECHANICAL PARTS (TOP VIEW)



No.	Function	No.	Function
1	Full erase head	8	Take-up main brake
2	Supply pole base ass'y	9	Pinch drive cam
3	Tension arm	10	A/C head ass'y
4	Idler wheel ass'y	11	Reverse guide lever ass'y
5	Pinch drive lever ass'y	12	Casecon drive gear
6	Supply reel disk	13	Take-up reel disk
7	Supply main brake	14	Pinch roller lever ass'y

## FUNCTION OF MAJOR MECHANICAL PARTS (BOTTOM VIEW)



No.	Function	No.	Function
15	Drum ass'y	22	Reel belt
16	Loading motor	23	Clutch lever
17	Drum drive motor	24	Limiter pulley ass'y
18	Take-up pole base ass'y	26	Shifter
19	Slow brake lever		
20	Master cam		
21	Capstan D.D. motor		

### 4-3. REMOVING AND INSTALLING THE CASSETTE HOUSING

#### • Removal

1. In the cassette removing mode, remove the cassette.
2. Unplug the power cord.
3. Remove in the following numerical order.
  - a) Remove two screws ①.
  - b) Slide and pull up the cassette housing control.

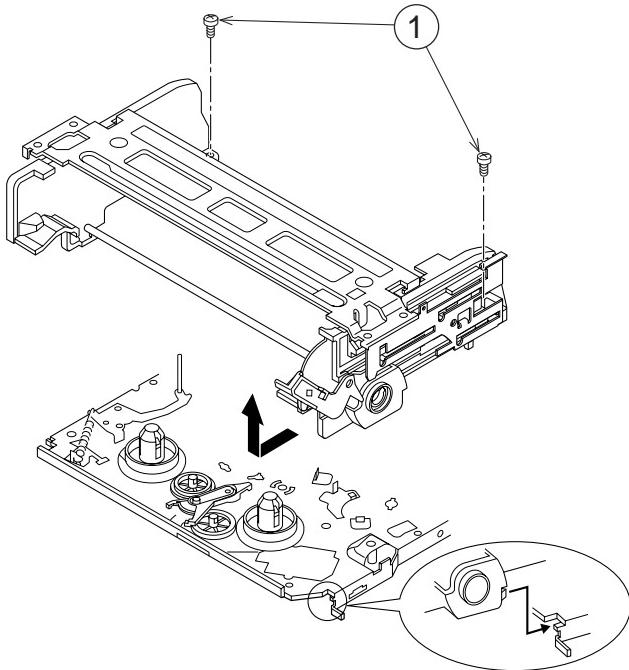


Figure 4-1.

#### • Reassembly

1. Before installing the cassette housing control, short-circuit TP803 and TP802 provided at operation PWB, press the eject button. The casecon drive gear turns and stops when the positioning mark appears. Engage two teeth of casecon drive gear with the three teeth of casecon drive angle gear, and set on the mechanism chassis as shown below.

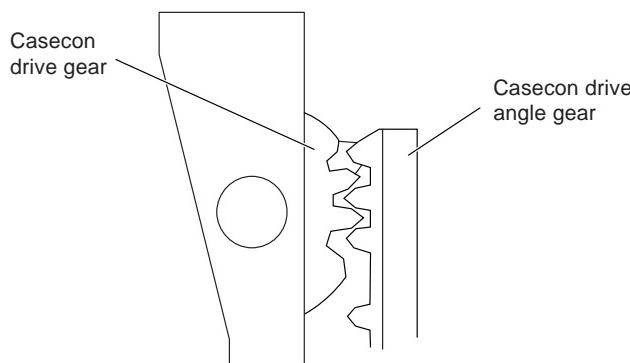


Figure 4-2.

2. Install in the reverse order of removal.

#### Notes:

1. When fitting the S/E sensor holder to the cassette controller frame L/R, take care.
2. Misengagement of teeth of casecon drive gear and drive angle gear causes malfunction. (The cassette cannot be set, load and ejection are repeated).
3. In the case when you use the magnet screw driver, never approach the magnet driver to the A/C head, FE head, and drum.
4. When installing or removing, take care so that the cassette housing control and tool do not contact the guide pin or drum.
5. After installing the cassette housing control once perform cassette loading operation.

### 4-4. TO RUN A TAPE WITHOUT THE CASSETTE HOUSING CONTROL ASSEMBLY

1. Remove the full-surface panel.
2. Short-circuit TP803 and TP802.
3. Plug in the power cord.
4. Turn off the power switch.  
(The pole bases move into U.L.position.)
5. Open the lid of a cassette tape by hand.
6. Hold the lid with two pieces of vinyl tape.
7. Set the cassette tape in the mechanism chassis.
8. Stabilize the cassette tape with a weight (500g) to prevent floating.
9. Turn on the power switch.
10. Perform running test.

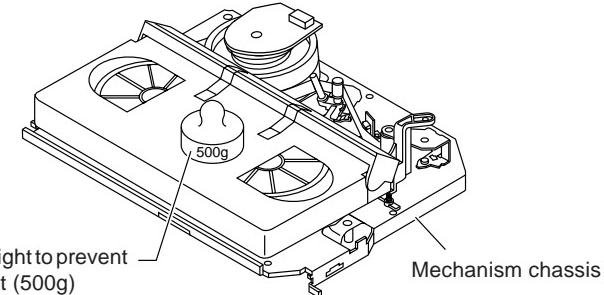


Figure 4-3.

#### Note:

The weight should not be more than 500g.

To take out the cassette tape.

1. Turn off the power switch.
2. Take out the cassette tape.

## 4-5. REEL DISK REPLACEMENT AND HEIGHT CHECK

### • Removal

1. Remove the cassette housing control assembly.
2. Pull the tension band out of the tension arm ass'y.
3. Remove the Supply/Take-up main brake ass'y.
4. Open the hook at the top of the reel disk, and remove the reel disk.

### Note:

Take care so that the tension band ass'y and main brake ass'y (especially soft brake) are not deformed.

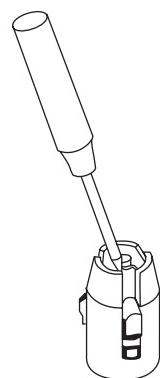
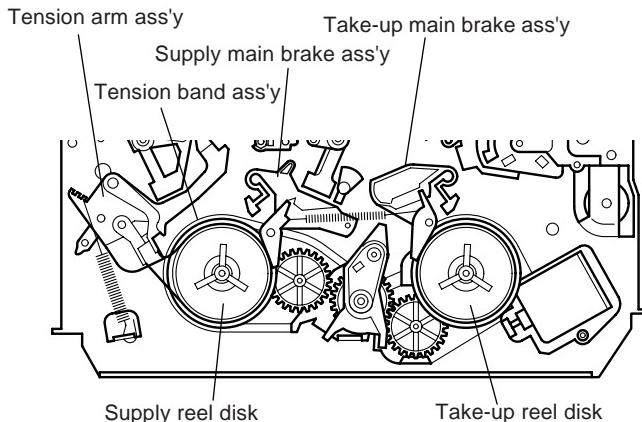


Figure 4-4.

### Note:

When the tension band ass'y is pressed in the direction of the arrow for removal, the catch is hard to be deformed.

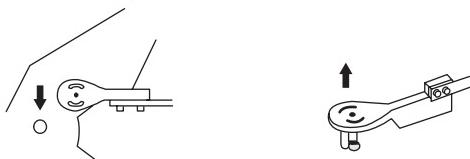


Figure 4-5.

### • Reassembly (Supply reel disk)

1. Clean the reel disk shaft and apply grease (SC-141) to it.
2. Match the phases of reel disk and reel relay gear, and set the new reel disk.
3. After checking the reel disk height, wind the tension band ass'y around the reel disk, and insert into the hole of tension arm ass'y.

4. Assemble the Supply main brake ass'y.

### Notes:

1. When installing the reel disk, take due care so that the tension band ass'y is not deformed and grease does no adhere.
2. Do not damage the Supply main brake ass'y. Be careful so that grease does not adhere to the brake surface.

### • Reassembly (Take-up reel disk)

1. Clean the reel disk shaft and apply grease (SC-141) to it.
2. Align the phase of the reel disk to that of the reel relay gear and to install a new take-up reel disk onto the shaft.
3. Check the reel disk height and reassemble the take-up main brake ass'y.

### Note:

1. Take care so that the Take-up main brake ass'y is not damaged. Take care so that grease does not adhere the brake surface.
2. After reassembly, check the video search rewind back tension (see 4-10), and check the brake torque (see 4-14).

### • Height checking and adjustment

#### Note:

1. Set the master plane with due care so that it does not contact the drum.
2. When putting the master plane, shift the reverse guide a little in the loading direction. Care must be taken since excessive shift results in damage.

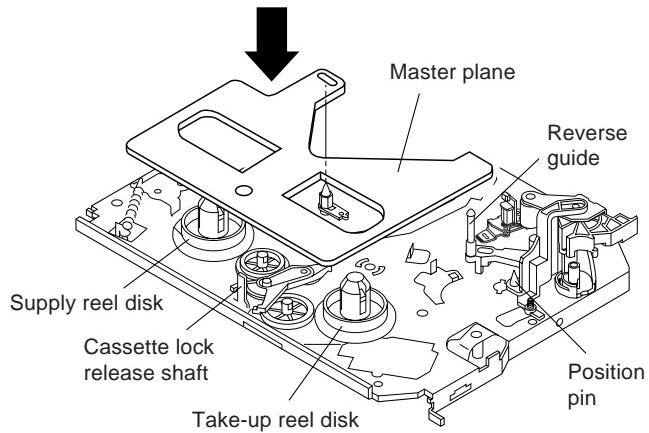


Figure 4-6.

### Note:

- Check that the reel disk is lower than part A but higher than part B. If the height is not correct, readjust the reel disk height by changing the poly-slider washer under the reel disk.

**Note:**

Whenever replacing the reel disk, perform the height checking and adjustment.

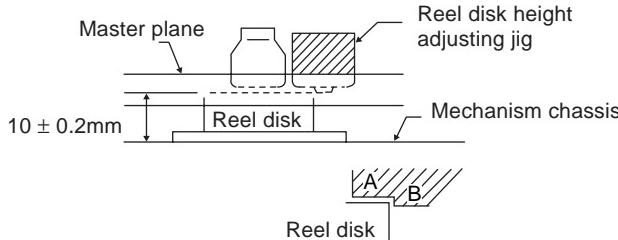


Figure 4-7.

#### 4-6. CHECKING AND ADJUSTMENT OF TAKE-UP TORQUE IN FAST FORWARD MODE

- Remove the cassette housing control assembly.
- After short-circuiting TP803 and TP802 provided at operation PWB, plug in the power cord.

**Setting**

1. Set a torque gauge to zero on the scale. Place it on the take-up reel disk.
2. Press the FF button.
3. To calculate the remaining capacity of the play back mode, slowly rotate the supply reel disk, and then shift it into the forward mode.

**Checking**

1. Turn the torque gauge slowly (one rotation every 2 to 3 seconds) by hand in the CW direction.
2. Make sure that the indication of torque gauge is not less than 30mN·m (306gf·cm).

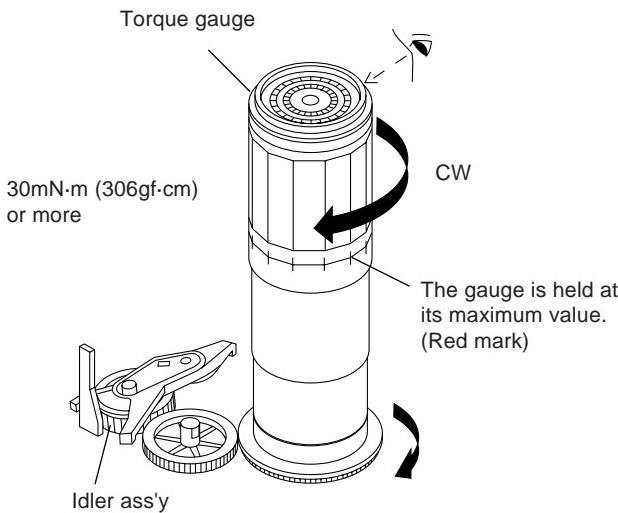


Figure 4-8.

**Adjustment**

1. If the FF winding-up torque is less than the specified value, clean the capstan D.D. motor pulley, drive belt, and limiter pulley with cleaning liquid, rewind again, and check again.
2. If the torque is less than the set value, replace the reel belt.

**Notes:**

1. Hold the torque gauge by hand so that it is not moved.
2. Do not keep the reel disk in lock state. Do not allow long-time measurement.

#### 4-7. CHECKING AND ADJUSTMENT OF TAKE-UP TORQUE IN REWIND MODE

- Remove the cassette housing control assembly.
- After short-circuiting TP803 and TP802 provided at operation PWB, plug in the power cord.

**Setting**

1. Set a torque gauge to zero on the scale. Place it on the supply reel disk.
2. Press the rewind button.
3. To calculate the remaining capacity, slowly rotate the take-up reel disk, and then shift it into the rewind mode.

**Checking**

1. Turn the torque gauge slowly (one rotation every 2 to 3 seconds) by hand in the CCW direction.
2. Make sure that the indication of torque gauge is not less than 30mN·m (306gf·cm).

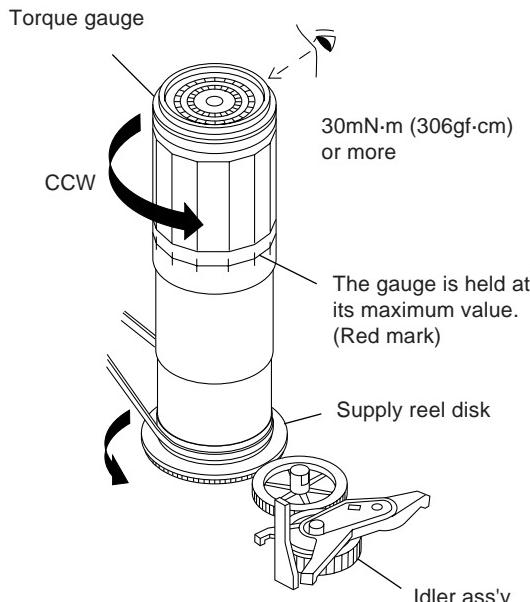


Figure 4-9.

**Adjustment**

1. If the rewind winding-up torque is less than the specified value, clean the capstan D.D. motor pulley, drive belt, and limiter pulley with cleaning liquid, rewind again, and check the winding-up torque.
2. If the winding-up torque is still out of range, replace the drive belt.

**Notes:**

1. Hold the torque gauge by hand so that it is not moved.
2. Do not keep the reel disk in lock state. Do not allow long-time measurement.

#### 4-8. CHECKING AND ADJUSTMENT OF TAKE-UP TORQUE IN RECORD/PLAYBACK MODE

- Remove the cassette housing control assembly.
- After short-circuiting TP803 and TP802 provided at operation PWB, plug in the power cord.
- Turn off the power switch.
- Open the cassette torque meter lid, and fix it with tape.
- Load the cassette torque meter into the unit.
- Put the weight (500g) on the cassette torque meter.
- Turn on the power switch.
- Press the picture record button, and set EP picture record mode (x3).

Set value  $EP6.9 \pm 2.5mN\cdot m$  ( $70 \pm 25gf\cdot cm$ )

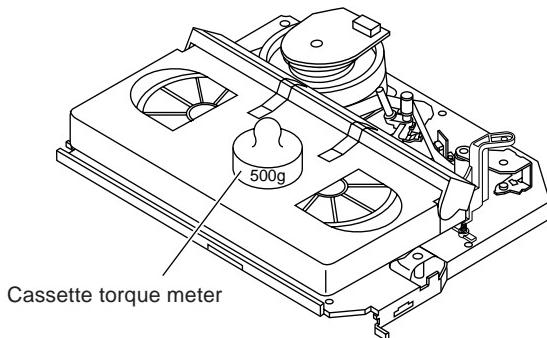


Figure 4-10.

• **Checking**

1. Make sure that value is within the setting  $6.9 \pm 2.5mN\cdot m$  ( $70 \pm 25gf\cdot cm$ ).
2. The winding-up torque fluctuates due to variation of rotation torque of limiter pulley ass'y. Read the center value of fluctuation as setting.
3. Set the EP record mode (x3) and make sure that the winding-up torque is within setting.

• **Adjustment**

If the playback winding-up torque is not within the setting, replace the limiter pulley assembly.

**Note:**

When the torque cassette is set, put a weight (500g) to prevent rise.

When the cassette torque meter is taken out.

Turn off the power switch.

#### 4-9. CHECKING AND ADJUSTMENT OF TAKE-UP TORQUE IN VIDEO SEARCH REWIND MODE

- Remove the cassette housing control assembly.
- After short-circuiting TP803 and TP802 provided at operation PWB, plug in the power cord.

• **Setting**

Press the playback button and rewind button to set the video search rewinding mode.

• **Checking**

Place the torque gauge on the supply reel disk, and turn it counterclockwise very slowly (one rotation every 1 to 2 seconds) and check that the torque is within the set value  $14.0 \pm 3.9mN\cdot m$ . ( $144 \pm 40gf\cdot cm$ )

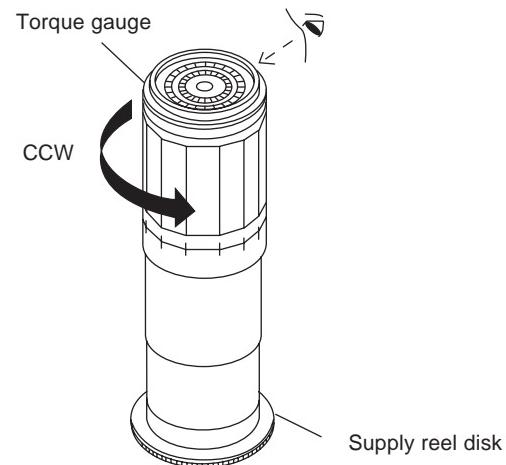


Figure 4-11.

**Note:**

Surely put the torque gauge on the reel disk to measure. If the torque gauge is raised, accurate measurement is impossible.

• **Adjustment**

If the rewinding playback winding-up torque is not within the setting, replace the limiter pulley assembly.

**Note:**

The winding-up torque fluctuates due to variation of rotation torque of supply reel disk. Read the center value of fluctuation as setting.

## 4-10. CHECKING THE VIDEO SEARCH REWIND BACK TENSION

- Remove the cassette housing control assembly.
- After short-circuiting TP803 and TP802 provided at operation PWB, plug in the power cord.

### • Checking

1. After pressing the play button, press the rewind button, and set the video search rewind mode.
2. Place the torque gauge on the take-up reel disk, and turn it counterclockwise very slowly (one rotation every 2 to 3 seconds) and check that the torque is within the set value  $3.4 \pm 1.5 \text{mN}\cdot\text{m}$  ( $35 \pm 15 \text{gf}\cdot\text{cm}$ ).

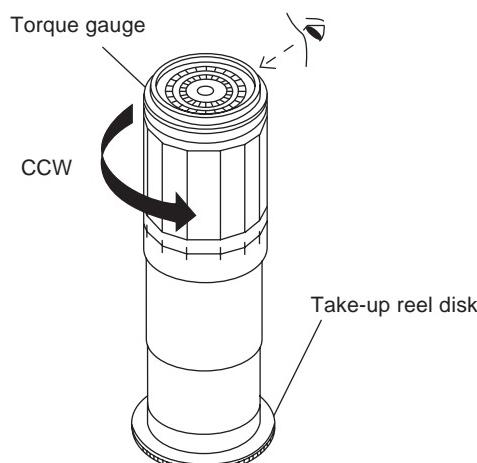


Figure 4-12.

### Notes:

Set the torque gauge securely on the take-up reel disk. If it is not secure, the measurement will be incorrect.

## 4-11. CHECKING THE PINCH ROLLER PRESSURE

- Remove the cassette housing control assembly.
- After short-circuiting TP803 and TP802 provided at operation PWB, plug in the power cord.

### • Checking

Press the play button to set the playback mode.

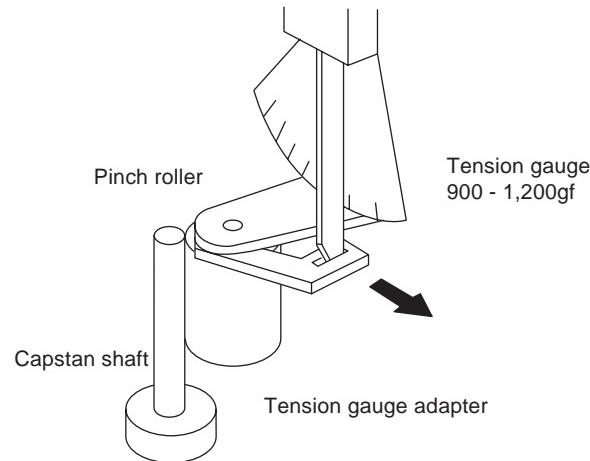


Figure 4-13.

1. Detach the pinch roller from the capstan shaft. Do not separate excessively. Or the pinch lever and pinch double action lever may disengage.
2. Engage the tension gauge adapter with the pinch roller shaft, and pull in the arrow direction.
3. Gradually return the pinch roller, and measure the pulling force when the pinch roller contacts the capstan shaft.
4. Make sure that the measured value is within setting 9.0 N to 11.8 N (900 to 1,200gf).

## 4-12. CHECKING AND ADJUSTMENT OF TENSION POLE POSITION

- Remove the cassette housing control assembly.
- After short-circuiting TP803 and TP802 provided at operation PWB, plug in the power cord.
- Setting
  1. Turn off the power switch.
  2. Open the cassette tape (T-120), and fix with tape.
  3. Set the cassette tape in loading state.
  4. Put the weight (500g) on the cassette tape.
  5. Turn on the power switch.
  6. Make the adjustment with the beginning of a T-120 tape.

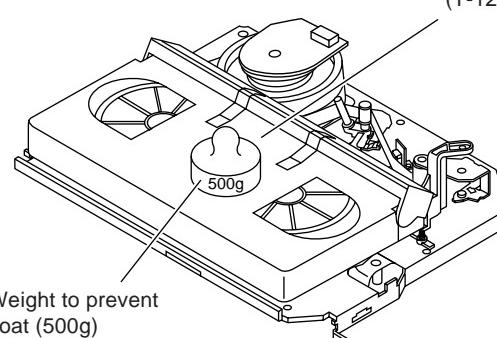
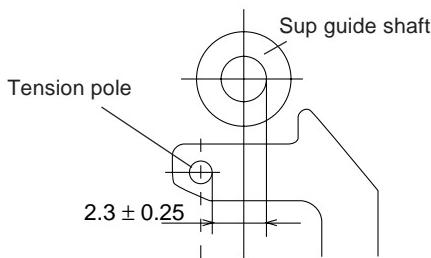


Figure 4-14.

- Checking
  1. Set a cassette tape, push the REC button to place the unit in the SP record mode. Now check the tension pole position.

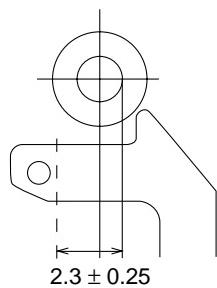
2. Visually check to see if the right edge of the tension pole is within the  $2.3 \pm 0.25$  from the right edge of the Sup guide shaft.



Make the adjustment with the beginning of a T-120 tape.

**Figure 4-15.**

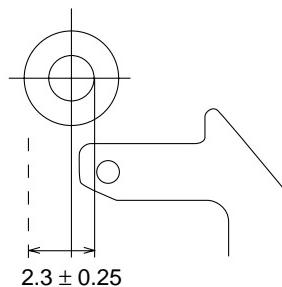
#### At left side from the center line



**Figure 4-16.**

Insert the slotted screwdriver in the tension pole adjuster, and rotate counterclockwise.

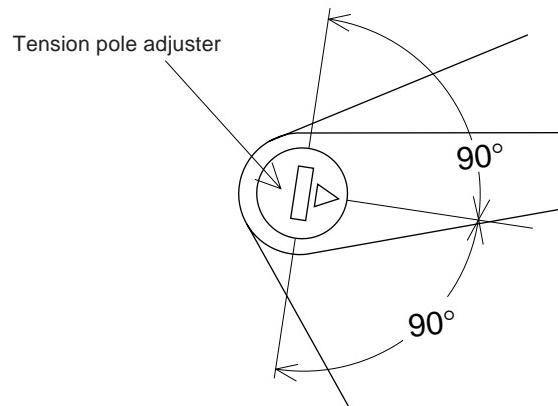
#### At right side from the center line



**Figure 4-17.**

Insert the slotted screwdriver in the tension pole adjuster, and rotate clockwise.

#### Tension pole adjuster adjusting range

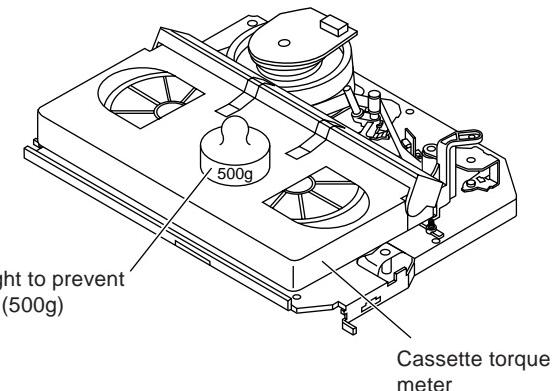


**Figure 4-18.**

Adjust so that the delta mark of tension pole adjuster is within 90° range (left, right).

### 4-13. CHECKING AND ADJUSTMENT OF RECORD/PLAYBACK BACK TENSION

- Remove the cassette housing control assembly.
- After short-circuiting TP803 and TP802 provided at operation PWB, plug in the power cord.
- Setting
  1. Turn off the power switch.
  2. Open the torque cassette meter and fix with tape.
  3. Set the cassette tape in loading state.
  4. Put the weight (500g) on the cassette torque meter.
  5. Turn on the power switch.



**Figure 4-19.**

#### • Checking

1. Push the REC button to place the unit in the SP record mode.
2. At this time ascertain that the back tension is within the setting (36.5 to 52g·cm) by seeing the indication of torque cassette meter.

- **Adjustment**

1. If the indication of torque cassette meter is lower than the setting, shift the tension spring engagement to the part A.
2. If the indication of torque cassette meter is higher than the setting, shift the tension spring engagement to the part B.

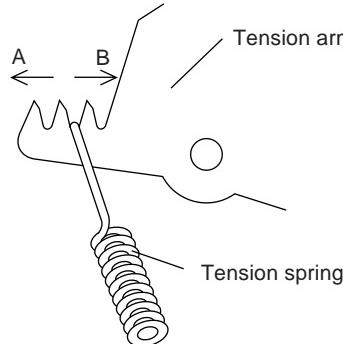
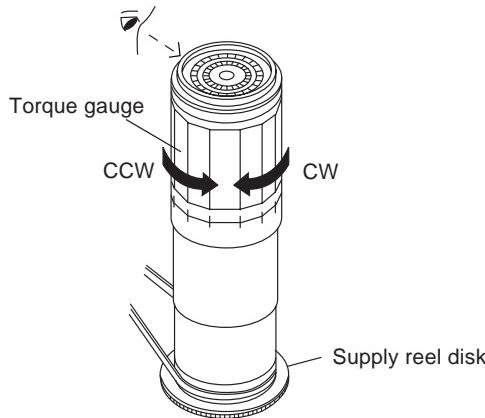


Figure 4-20.

#### 4-14. CHECKING THE BRAKE TORQUE

- **Checking the brake torque at the supply side**



CCW:	2.9~9.8mN·m (30~100gf·cm)
CW:	4.9~13.7mN·m (50~140gf·cm)

Figure 4-21.

- **Remove the cassette housing control assembly.**

- **After short-circuiting TP803 and TP802 provided at operation PWB, plug in the power cord.**

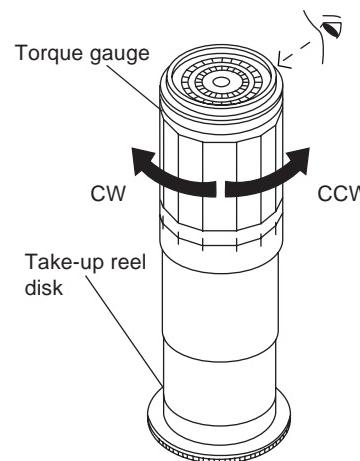
- **Setting**

1. Set a torque gauge to zero on the scale. Place it on the supply reel disk.
2. Switch from the FF mode to the STOP mode.
3. Disconnect the power cord.

- **Checking**

Turn the torque gauge at a rate of about one turn/2 sec in the CW direction/CCW direction with respect to the supply reel disk so that the reel disk and torque gauge pointer rotate at equal speed, and make sure that the value is within the setting (CW direction: 4.9 to 13.7mN·m (50 to 140gf·cm); CCW direction: 2.9 to 9.8mN·m (30 to 100gf·cm)).

- **Checking the brake torque at the take-up side**



CCW:	4.9~13.7mN·m (50~140gf·cm)
CW:	3.9~10.8mN·m (40~110gf·cm)

Figure 4-22.

- **Remove the cassette housing control assembly.**

- **After short-circuiting TP803 and TP802 provided at operation PWB, plug in the power cord.**

- **Setting**

1. Switch from the FF mode to the STOP mode.
2. Disconnect the power cord.
3. Set a torque gauge to zero on the scale. Place it on the take-up reel disk.

- **Checking**

1. Turn the torque gauge at a rate of about one turn/2 sec in the CCW direction/CW direction so that the reel disk and torque gauge pointer rotates at equal speed and make sure that the value is within the setting (CCW direction: 4.9 to 13.7mN·m (50 to 140gf·cm), CW direction: 3.9 to 10.8 mN·m (40 to 110gf·cm)).
2. Adjustment of the brake torque at the supply side and the take-up side
  - Unless the supply side brake torque or take-up side brake torque is within the setting, clean the felt surface of reel disk (supply, take-up) brake lever, check again the brake torque.
  - If value cannot be set within the setting yet, replace the main brake ass'y or main brake spring.

## 4-15. REPLACEMENT OF A/C (Audio/Control) HEAD

1. Remove the cassette housing control assembly.
2. In unloading state unplug the power cord.

### • Removal

1. Remove the screws ①②③, Azimuth screw, Tilt screw.
2. Unsolder the PWB fitted to the A/C head.

### Notes:

1. When replacing, never touch the head. If you touched, clean with the cleaning liquid.
2. When removing the screw ③, take care so that the spring may out.

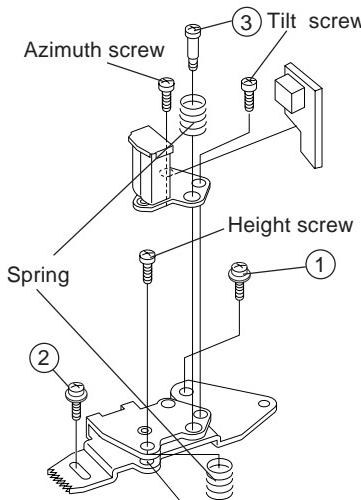


Figure 4-23.

### • Replacement

1. Solder the removed PWB to the new head assembly.
2. Adjust the height from the A/C head arm (lower surface) to the A/C head plate to 10.8mm with slide calipers. (3 places of azimuth screw section, tilt screw section and A/C head front section) (See the figure below.)

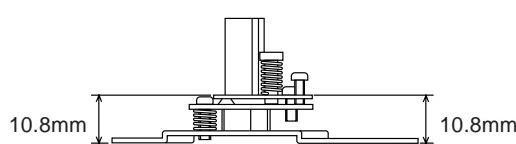
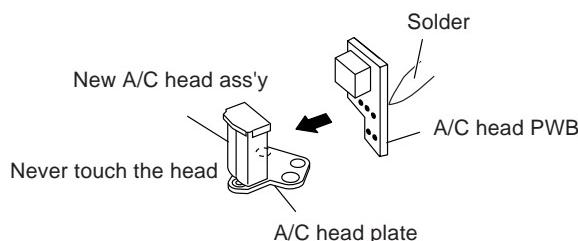


Figure 4-24.

3. Align the left end of gear of A/C head arm with the punched mark of chassis, tentatively tighten the screws ① and ② so as to ensure smooth motion of A/C head arm. Tentative tightening torque must be 0.15 to 0.20 N·m (1.5 to 2.0kgf·cm).

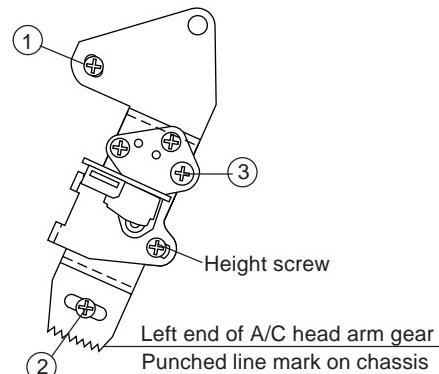


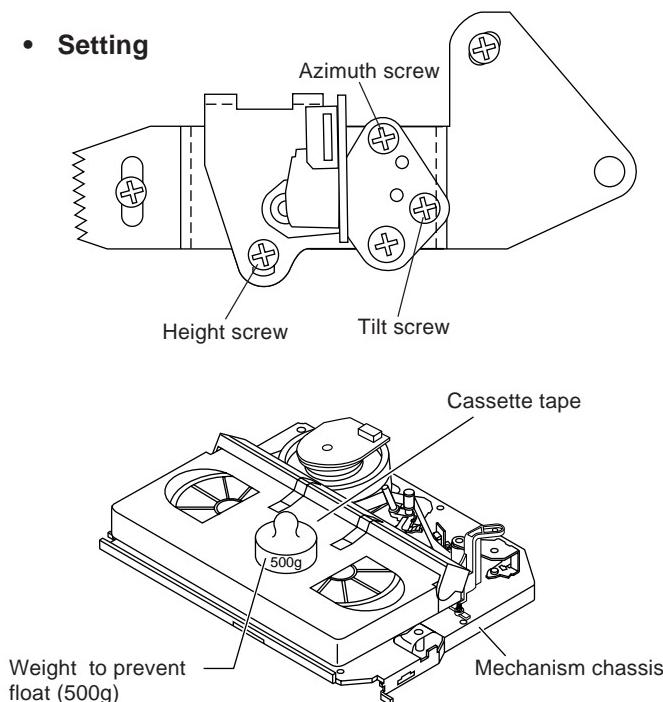
Figure 4-25.

### Note:

1. If the screws ① and ② are tighten tentatively too loose, the azimuth and height of A/C head may change when they are finally tightened. Therefore care must be taken.
2. After completion of A/C head be sure to adjust tape running. (Execute the running adjustment by the method described in 4-18.)

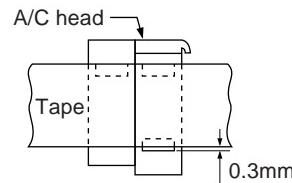
#### 4-16. A/C HEAD HEIGHT ADJUSTMENT

- Setting



**Figure 4-26.**

1. Set the cassette tape in the unit.
2. Press the PLAY button to put the unit in the playback mode.
3. Roughly adjust the height of the A/C head by turning the height screw until the tape is in the position shown below.



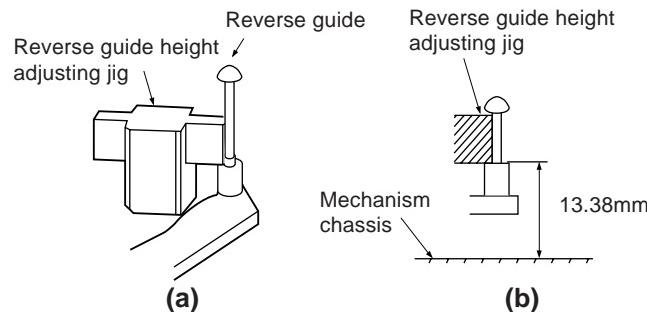
**Figure 4-27.**

- Adjustment

Adjust the height screw visually so that the control head is visible 0.3mm below the bottom of the tape.

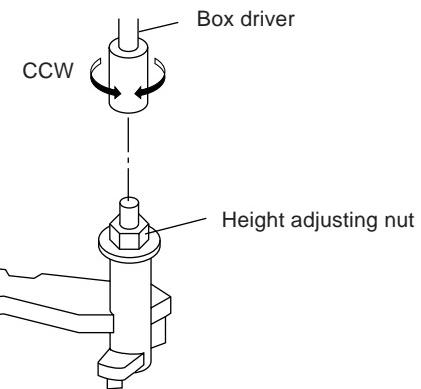
#### 4-17. HEIGHT ADJUSTMENT OF REVERSE GUIDE

1. Adjust the height from the mechanism chassis to the reverse guide lower flange to 13.38 mm, using the reverse guide height adjustment jig, in tape loading state. (Refer to Figure 4-28 (a) (b).)



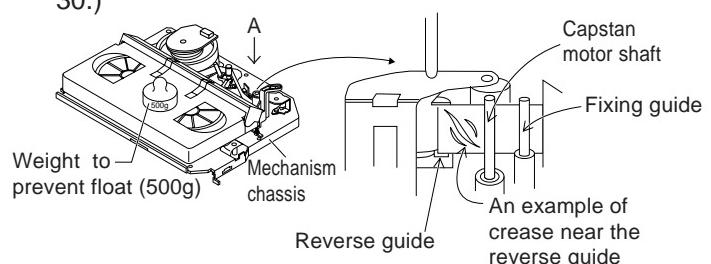
**Figure 4-28.**

2. Rotate counterclockwise the reverse guide height adjustment nut 1/10 turn. (For height adjustment use the reverse guide height adjustment box driver (JiGDRiVER 11055)).



**Figure 4-29.**

3. Set the tape, and check for tape crease near the reverse guide in the playback mode. If crease is found, turn the reverse guide adjustment nut to remove crease. (As for crease check refer to Figure 4-30.)



\* Check for crease from the A direction.

**Figure 4-30.**

## 4-18. ADJUSTMENT OF TAPE DRIVE TRAIN

1. Tape run rough adjustment
  - ① Remove the cassette housing control assembly.
  - ② After shortcircuiting TP803 and TP802 provided at operation PWB, plug in the power cord.
  - ③ Check and adjust the position of the tension pole. (See 4-12.)
  - ④ Check and adjust the video search rewind back tension. (See 4-10.)
  - ⑤ Connect the oscilloscope to the test point for PB CHROMA envelope output (TP201). Set the synchronism of the oscilloscope to EXT. The PB CHROMA signal is to be triggered by the head switching pulse (TP202).
  - ⑥ Set the alignment tape (VROATSV) to play. (Put a 500g weight on the cassette tape to prevent lift of cassette tape.)

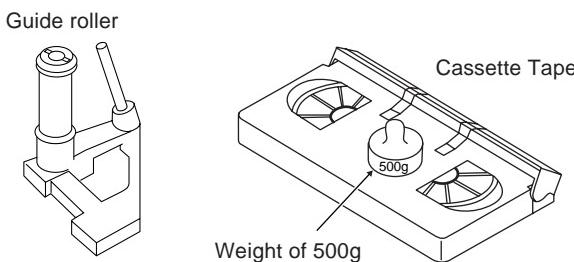


Figure 4-31.

- ⑦ Press the tracking button (+), (-) and change the envelope waveform from max to min and from min to max. At this time make sure that the envelope waveform changes nearly parallel.
- ⑧ Unless the envelope waveform changes nearly parallel, adjust the height of supply side and take-up side guide roller so that the envelope waveform changes nearly parallel. (For envelop adjustment procedure refer to Figure 4-35.)
- ⑨ Turn the tilt screw to remove the tape crease at the fixing guide flange.

Playback the tape and check for tape crease at the fixing guide flange.

- (1) If there is no tape crease

Turn the tilt screw clockwise so that tape crease appears once at the flange, and then return the tilt screw so that the crease disappears.

- (2) If there is tape crease

Turn counterclockwise the tilt screw so that the tape crease disappears.

(Reference) If the tilt screw is turned clockwise crease appears at the lower flange.

### Notes:

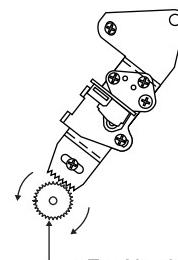
1. Previously set the tracking control in the center position, and adjust the envelop waveform to maximum with X value adjustment nut. Thereby the tape run rough adjustment is facilitated.
2. Especially the outlet side envelope waveform must have higher flatness.



Figure 4-32.

### 2. Adjustment of A/C head height and azimuth

- ① Perform the initial setting of A/C head position by the method stated in "4-15 Replacement 3".
- ② Connect the oscilloscope to the audio output terminal.
- ③ Using the alignment tape in which 1 kHz linear audio signal has been recorded, adjust the height screw so as to get max audio output.
- ④ Using the alignment tape in which 7 kHz linear audio signal has been recorded, adjust the azimuth screw so as to get max audio output.
- ⑤ The adjustment of ③ and ④ twice or three times repeat, and finally adjust ④.



For X value adjustment  
Adjust the X value, turning the gear-type screwdriver.

Figure 4-33.

### 3. Tape run adjustment

- ① Connect the oscilloscope to PB CHROMA envelope output test point, set oscilloscope sync to EXT, trigger-input the PB CHROMA signal (head switching pulse).

#### ② Rough adjustment of X value

Tentatively fix A/C head arm screws ① and ② by the method described in 4-15 "Replacement 3".

Playback the alignment tape (VROATSV) and shortcircuit TP801 and TP802. As a result the auto-tracking is automatically cancelled, so that the X value adjustment mode is set.

Move the A/C head with the X value adjustment gear driver (JiGDRiVER-6) by the method shown in Figure 4-33, and adjust the A/C head so as to get the maximum envelope waveform. (Note: When the A/C head is adjusted, adjust so that the maximum envelop waveform is obtained nearest the position of initial setting made in 4-15.)

- ③ Next, Press the tracking button (+), (-) and change the envelope waveform from max to min and from min to max. At this time adjust the height of supply and take-up side guide roller with the adjustment driver (JiGDRiVERH-4) so that the envelope waveform changes nearly parallel.
- ④ If the tape is lifted or sunk from the helical lead surface, the PB CHROMA envelope waveform appears as shown in Figure 4-35.
- ⑤ Press the tracking button (+), (-) and make sure that the envelope waveform changes nearly parallel.
- ⑥ Finally check tape crease near the reverse guide. If tape crease is found, remove it as stated in 4-17 "HEIGHT ADJUSTMENT OF REVERSE GUIDE" item 3.

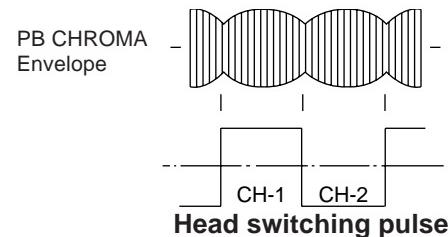


Figure 4-34.

#### 4. A/C head X value adjustment

- ① Tentatively fix A/C head arm screws ① and ② by the method described in 4-15 "Replacement 3".
- ② Playback the alignment tape (VROATSV), and shortcircuit TP801 and TP802. As a result the auto-tracking is automatically cancelled, so that the X value adjustment mode is set.

	When the tape is above the helical lead.		When the tape is below the helical lead.	
	Supply side	Take-up side	Supply side	Take-up side
Adjustment	Supply side guide roller rotated in clockwise direction (lowers guide roller) to flatten envelope.	Take-up side guide roller rotated in clockwise direction (lowers guide roller) to flatten envelope.	Supply side guide roller rotated in counterclockwise direction (raises guide roller) to make the tape float above the helical lead. The supply side guide roller is then rotated in the clockwise direction to flatten the envelope.	Take-up side guide roller rotated in counterclockwise direction (raises guide roller) to make the tape float above the helical lead. The take-up side guide roller is then rotated in the clockwise direction to flatten the envelope.

Figure 4-35.

- ③ Move the A/C head with the X value adjustment gear driver by the method shown in Figure 4-33, and adjust the A/C head so as to get the maximum envelope waveform. (Note: At this time adjust so as to get the maximum envelope waveform nearest the A/C head position which has been set in case of X value rough adjustment as stated in 4-18, 3-②.)
- ④ Tighten finally the screws ① and ②. Be sure to tighten at first the screw ① and then the screw ②. Final tightening torque is 0.6N·m (If the screw ② is tightened first, the X value may deviate.)
- ⑤ Adjust the playback switching point (Refer to the electric adjustment method.)
- ⑥ Playback the self-picture-recorded tape, and check the flatness of envelope waveform and sound.

#### Notes:

When the A/C head X value adjustment is performed, be sure to perform at first X value rough adjustment (refer to 4-18, 3-②).

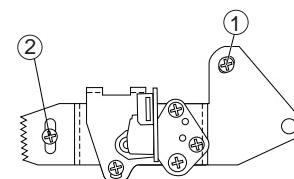


Figure 4-36.

## 4-19. REPLACEMENT OF THE CAPSTAN D.D. (DIRECT DRIVE) MOTOR

- Remove the mechanism from the main PWB (refer to 2-2 "item 1 When removing the mechanism from the main PWB").

### • Removal (Follow the order of indicated numbers.)

- Remove the reel belt ①.
- Remove the three screws ②.

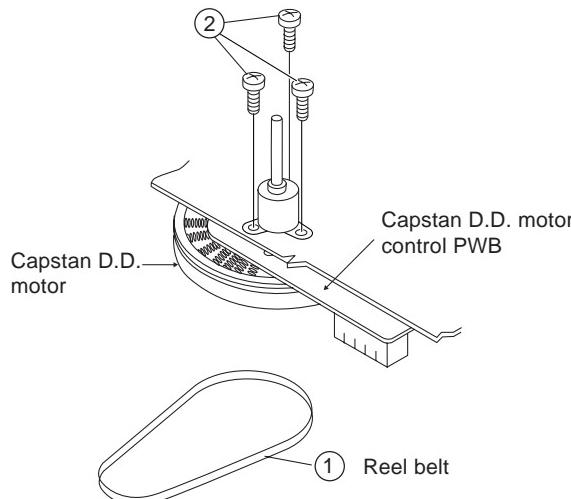


Figure 4-37.

### • Reassembly

- Taking care so that the capstan shaft does not contact the mechanism chassis, set its position on the mechanism chassis, and then install with the three screws.
- Install the reel belt.

### Notes:

- After installing the capstan D.D. motor, be sure to rotate the capstan D.D. motor and check the movement.
- Set the tape, and check for the tape crease near the reverse guide in the playback mode. Adjust the A/C head and azimuth as stated in 4-18 item 2. If crease is found, adjust as stated in 4-17 "HEIGHT ADJUSTMENT OF REVERSE GUIDE".

## 4-20. REPLACEMENT OF DRUM D.D. MOTOR

- Set the ejection mode.
- Withdraw the main power plug from the socket.

### • Removal (Perform in numerical order.)

- Disconnect the FFC cable ①.
- Unscrew the D.D. stator assembly fixing screws ②.
- Take out the D.D. stator assembly ③.
- Unscrew the D.D. rotor assembly fixing screws ④.
- Take out the D.D. rotor assembly ⑤.

### Notes:

- In removing the D.D. stator assembly, part of the drum earth spring pops out of the pre-load collar. Be careful not to lose it.
- Install, so that the D.D. rotor ass'y and upper drum ass'y mounting direction check holes align. (Align the upper drum dent with the rotor hole.)
- Be careful not to damage the upper drum or the video head.
- Protect the hole elements from shock due to contact with D.D. stator or D.D. rotor ass'y.
- After installation adjust the playback switching point for adjustment of servo circuit.

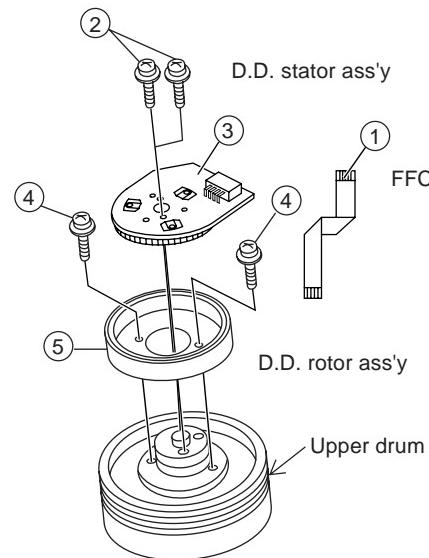


Figure 4-38.

## 4-21. REPLACING THE UPPER AND LOWER DRUM ASSEMBLY

- Replacement (Perform in the numerical order)
  - ① Remove the motor as stated in **4-20 D.D. motor replacement.**
  - ② Remove the drum earth brush ass'y ②.
  - ③ Remove the drum base ③ from the upper and lower drum assembly ①.

### [Cares when replacing the drum]

1. Be careful so that the drum earth brush is not lost.
2. Do not touch directly the drum surface.
3. Fit gently the screwdriver to the screws.
4. Since the drum assembly is an extremely precise assembly, it must be handled with utmost care.
5. Make sure that the drum surface is free from dust, dirt and foreign substances.
6. After replacing the drum be sure to perform the tape running adjustment.  
After that, perform also the electrical adjustment.
  - Playback switching point adjustment
  - X-position adjustment and check
  - Standard and x-3 slow tracking adjustment
7. After replacing the drum clean the drum.

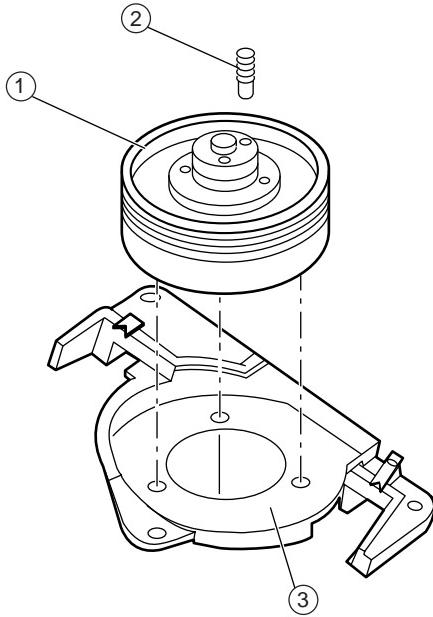


Figure 4-39.

## 4-22. ASSEMBLING OF PHASE MATCHING MECHANISM COMPONENTS

- Assemble the phase matching mechanism components in the following order.
  1. Assemble the pinch roller assembly and pinch drive cam.
  2. Mounting the shifter (on the back of the mechanism chassis).
  3. Mounting the master cam (on the back of the mechanism chassis).
  4. Assemble the connection gear, slow brake and loading motor parts.

### • Pinch drive cam and pinch roller assembling method.

(Place the following parts in position in numerical order.)

- (1) Reverse drive lever ①
- (2) Reverse guide spring ②
- (3) Reverse guide lever ass'y ③
- (4) Reverse guide height adjusting nut ④
- (5) Pinch drive cam ⑤
- (6) Pinch roller ass'y ⑥
- (7) Open lever ⑦

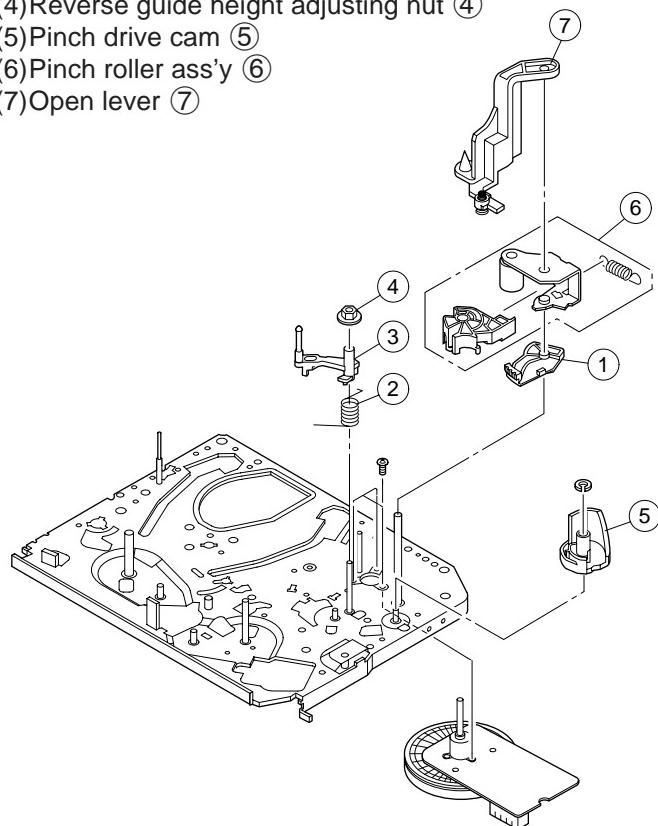


Figure 4-40.

① Insert Reverse Guide Lever Ass'y

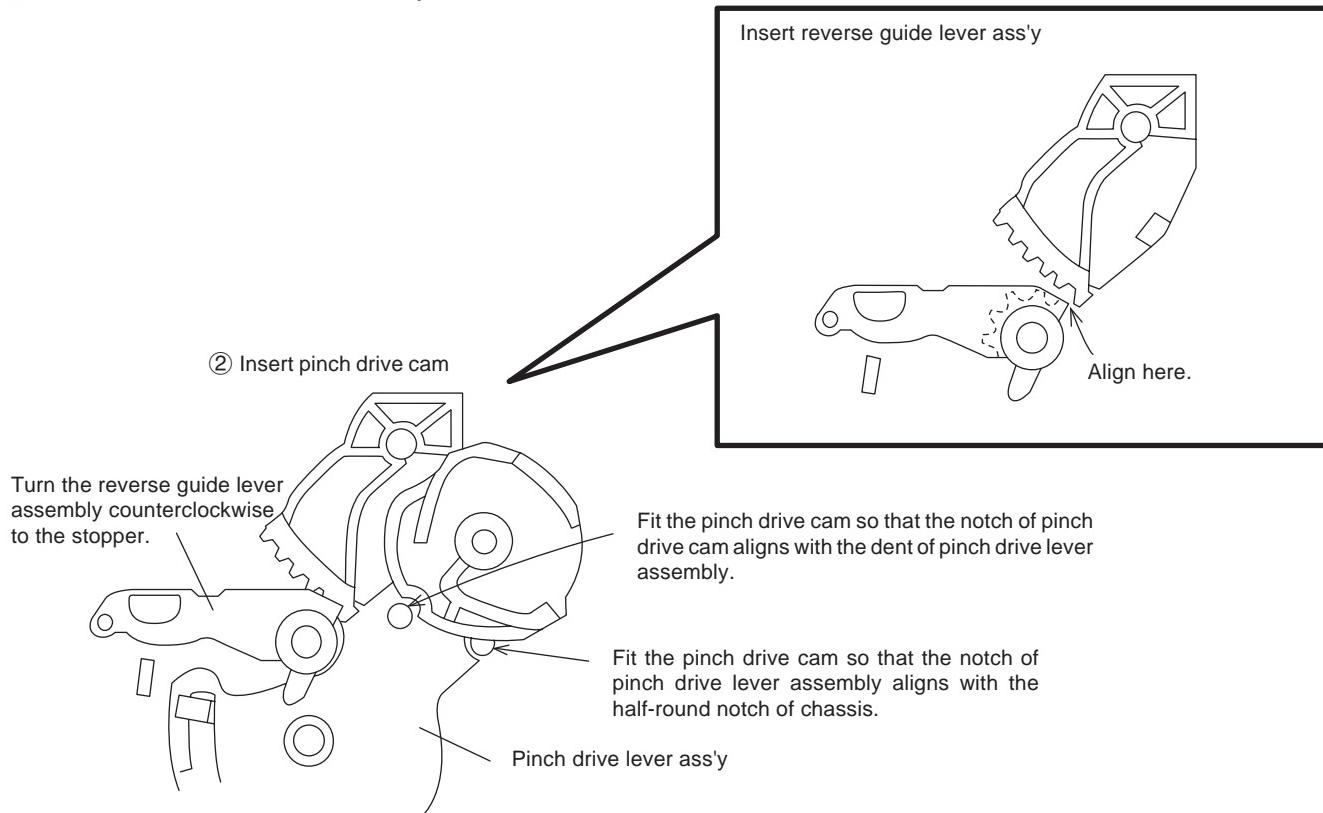


Figure 4-41-1.

② Insert Pinch Roller/Pinch Double Action Lever Ass'y.

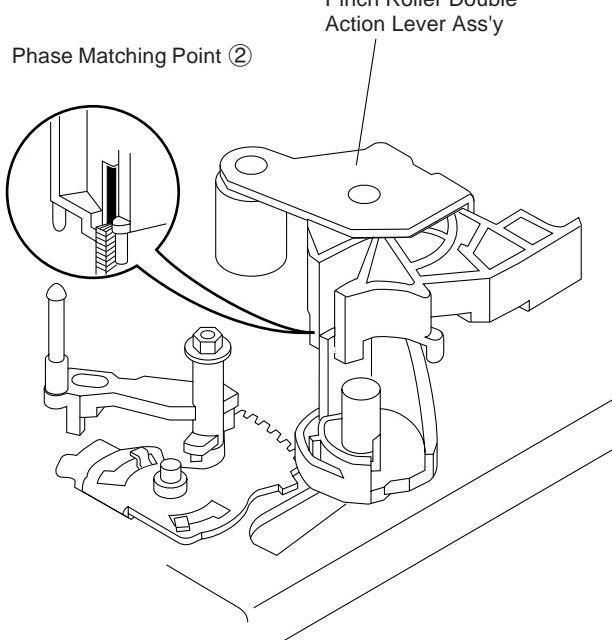


Figure 4-41-2.

③ Insert Open Lever.

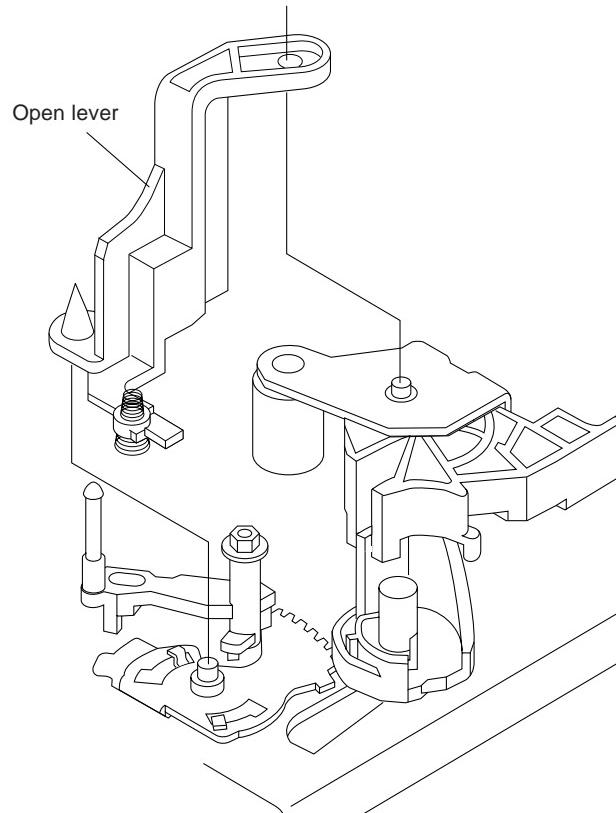
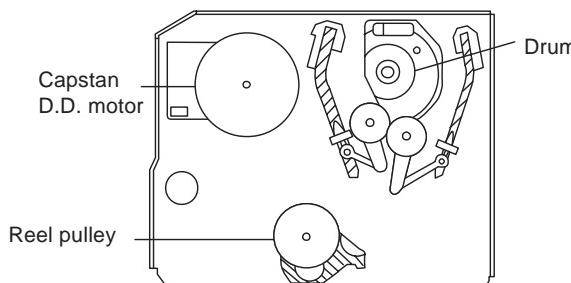


Figure 4-41-3.

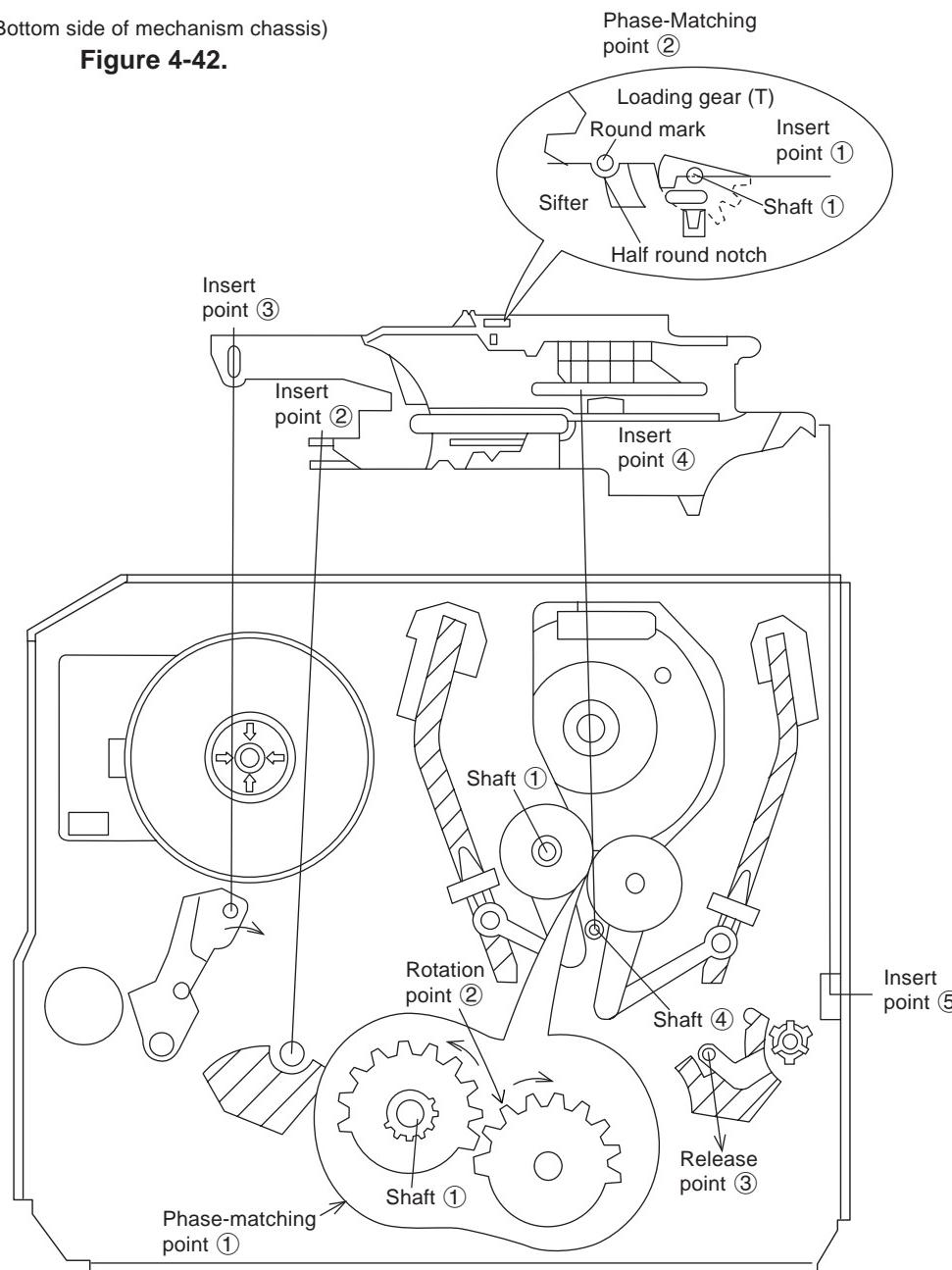
#### 4-23. INSTALLING THE SHIFTER



(Bottom side of mechanism chassis)

**Figure 4-42.**

1. Make sure that the loading gear is at the Phase-Matching point ① as shown below.
2. Install, paying attention to insert point ⑤ and release point ③.
3. For the phase matching at the insert point ①, see the Phase-Matching point ② as shown below.
4. Finally fix the inserts ① and ④.



**Figure 4-43.**

#### 4-24. INSTALLING THE MASTER CAM (AT REAR SIDE OF MECHANISM CHASSIS)

1. Make sure beforehand that the shifter is at the point as shown below.
2. Place the master cam in the position as shown below.

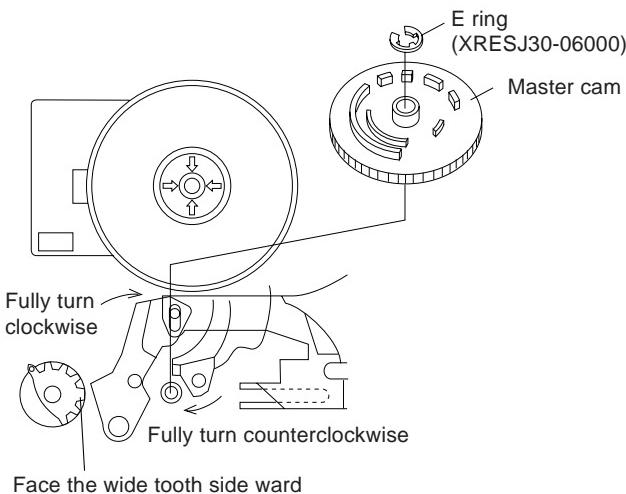


Figure 4-44-1.

##### Note:

See the figure below for the phase matching between the master cam and the casecon drive gear.

3. Finally fix with the E ring.

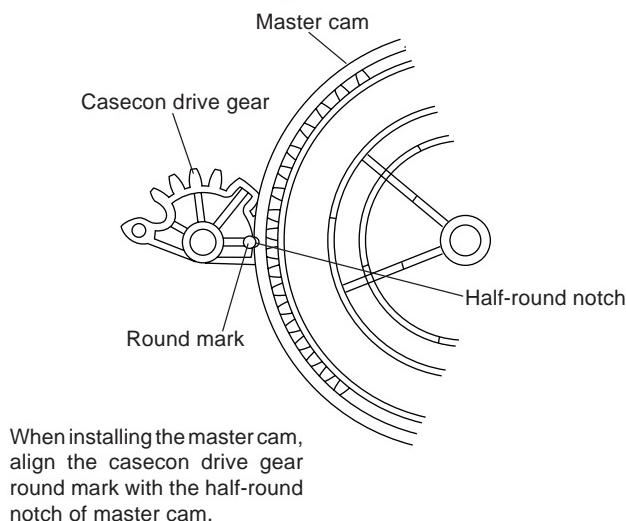


Figure 4-44-2.

#### 4-25. REPLACEMENT OF LOADING MOTOR

- Removal

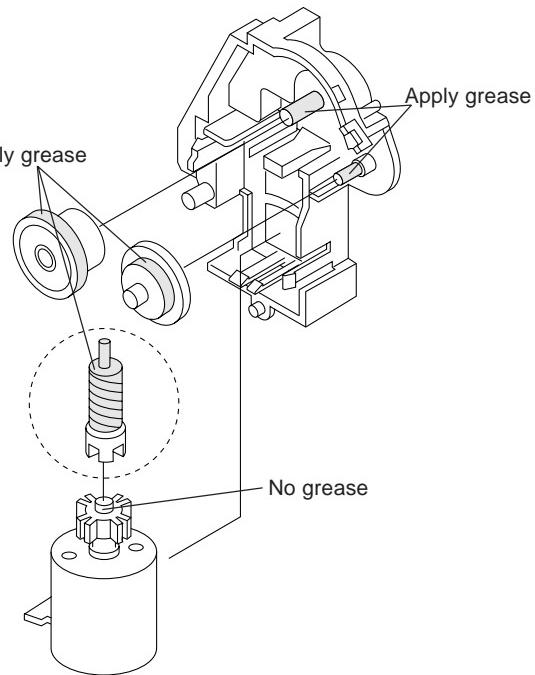


Figure 4-45.

- Replacement

Remove the loading motor, and install the replacement loading motor as shown below.

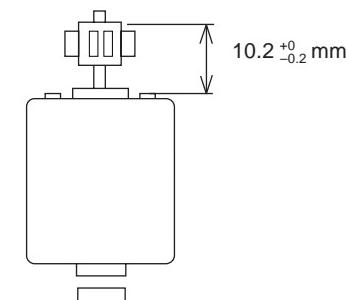


Figure 4-46.

The loading motor pressing-in must be less than 14.7 N (1,500 gf).

Adjust the distance between motor and pulley to  $10.2^{+0}_{-0.2}$  mm).

#### 4-26. ASSEMBLY OF CASSETTE HOUSING

##### 1. Drive Gear and R Drive angle ass'y

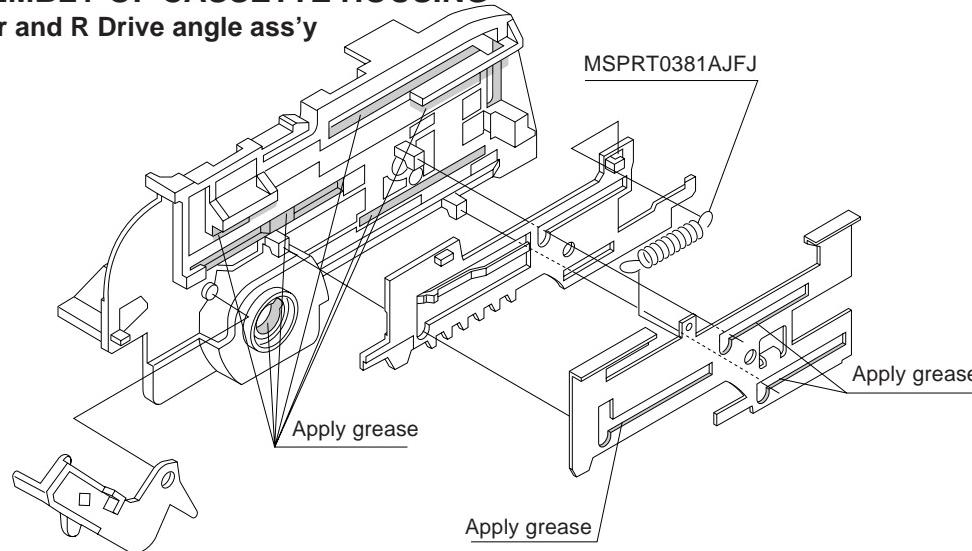


Figure 4-47.

##### 2. Synchro Gear, Drive Gear L and Drive Gear R

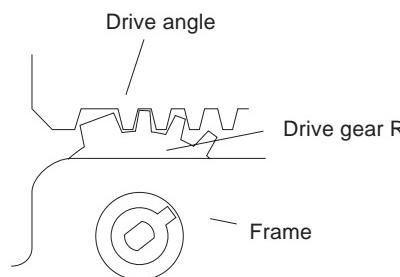
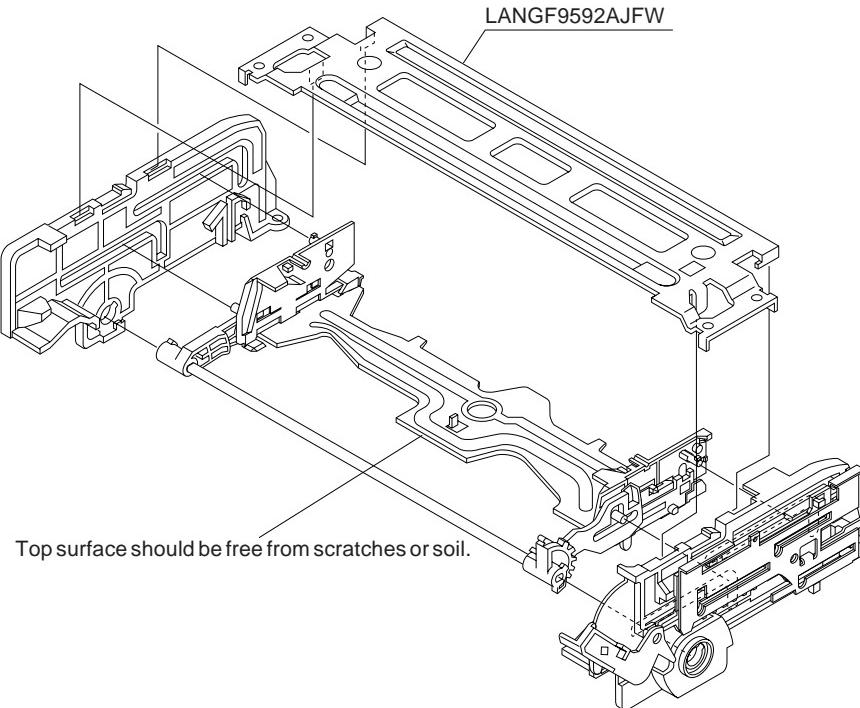


Figure 4-48.

## 5. ELECTRICAL ADJUSTMENT

### Notes:

- **Before the adjustment:**

Electrical adjustments discussed here are often required after replacement of electronic components and mechanical parts such as video heads.

Check that the mechanism and all electric components are in good working condition prior to the adjustments, otherwise adjustments can not be completed.

- **Instruments required:**

- Color TV monitor
- Audio signal generator
- Blank video cassette tape
- Screwdriver for adjustment
- RF signal generator
- Dual-trace oscilloscope
- AC milli-voltmeter
- Alignment tape (VROEFZHS)
- Color bar generator

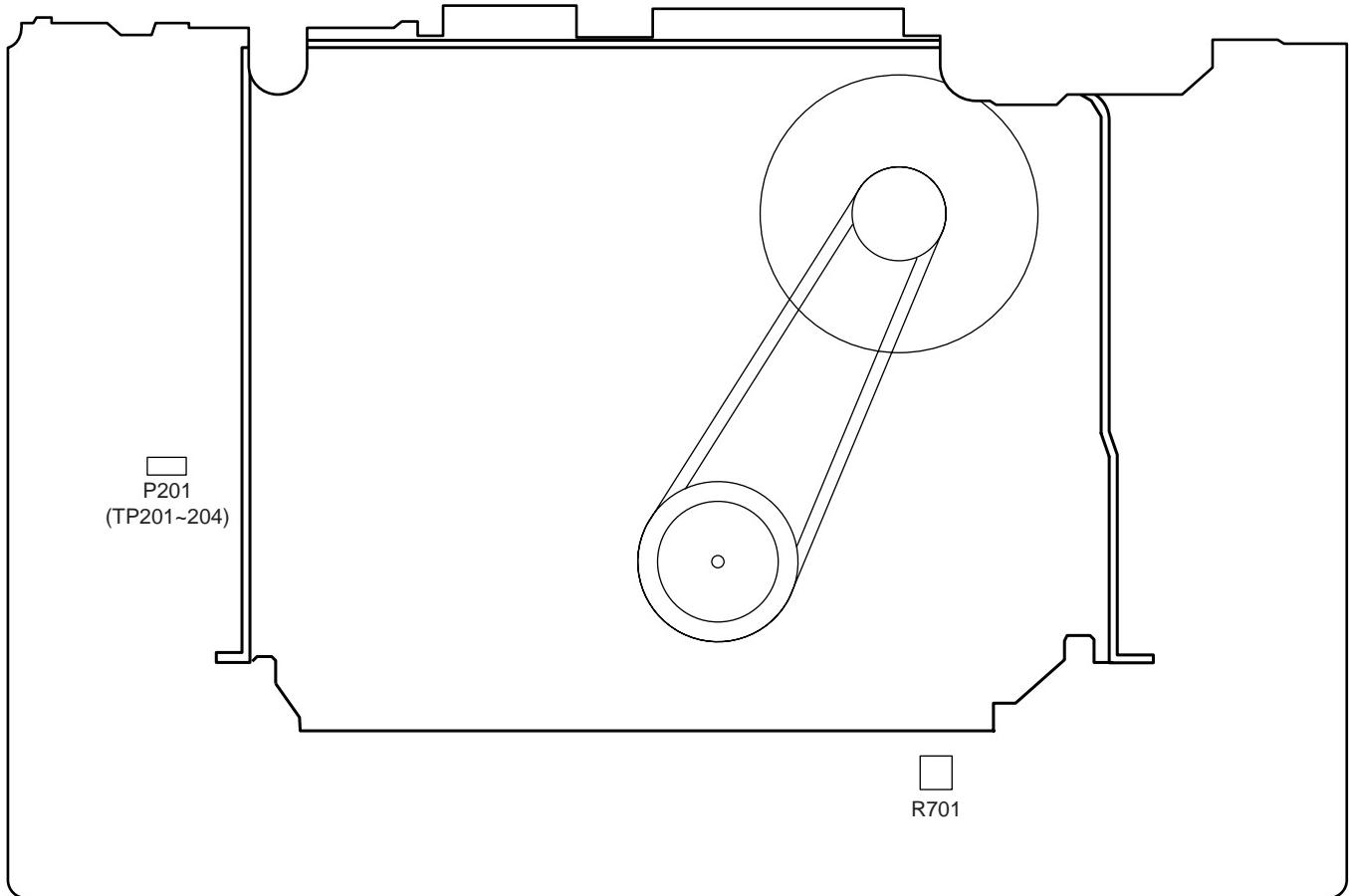


Figure 5-1.

## SERVO CIRCUIT ADJUSTMENT

### 5-1 ADJUSTMENT OF HEAD SWITCHING POINT

Measuring instrument	Dual-trace oscilloscope
Mode	Playback
Cassette	Alignment tape (VROEFZHS)
Test point	VIDEO OUT jack to CH2 TP202 (Sig.)~TP203 (GND) to CH1
Control	R701 Head switching point adjustment control
Specification	$6.0 \pm 0.5H$ (lines)

1. Remove the front panel and play the alignment tape.
2. Connect a dual-trace oscilloscope to the VIDEO OUT jack and TP202 (Sig.) and TP203 (GND).  
(Trigger the oscilloscope with the head switching pulse on TP202.)
3. Playback the alignment tape, and then short circuit between TP801 and TP802 on the operation PWB.
4. Adjust R701 so that the leading edge of the head switching pulse is  $6.0H$  (lines) ahead of the vertical sync as shown in Figure 5-2.
5. Press the STOP button to quit test mode.

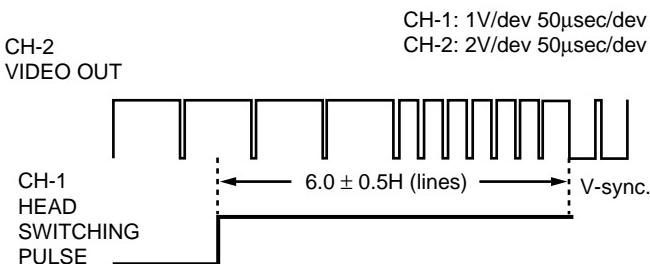


Figure 5-2.

### 5-2 ADJUSTMENT OF FV (False Vertical Sync) OF STILL PICTURE

Measuring instrument	Color TV monitor
Mode	Playback still
Cassette	Self-recorded tape (SP mode) (See Note below 2)
Control	Tracking control buttons(+) or (-)
Specification	No vertical jitter of picture

1. Play a cassette which was recorded by the unit in SP mode.
2. Press the PAUSE/STILL button to freeze the picture.
3. Look at the monitor screen and adjust (+) or (-) TRACKING buttons so that the vertical jitter of the picture is minimized.
4. Play and freeze the self-recorded tape in EP mode and make sure vertical jitter of the picture is not noticeable.

**Note:**

- 1 The FV goes back to the it's initial state when the unit is put into the system controller reset mode due to power failure, etc.  
In this case, preset the FV once again.
- 2 Self-recorded tape is a cassette whose program was recorded by the unit being adjusted.

### 5-3 CHECKING OF OFF TRACK

Measuring instrument	Color TV monitor
Mode	Playback
Cassette	Self-recorded tape (EP mode) (See Note below)
Control	Tracking control buttons(+) or (-)
Specification	No Poor picture and Hi-Fi sound

1. Play a cassette which was recorded by the unit in EP mode.
2. Short circuit between TP801 and TP802 on the operation PWB to center tracking.
3. Press the tracking buttons (+) or (-) 20 times each to bring the tracking off center. Make sure that:
  - 1) There is nothing unusual on the playback screen.
  - 2) There is nothing unusual in the Hi-Fi sound (for the Hi-Fi models only).
4. Press the STOP button to quit test mode.

**Note:**

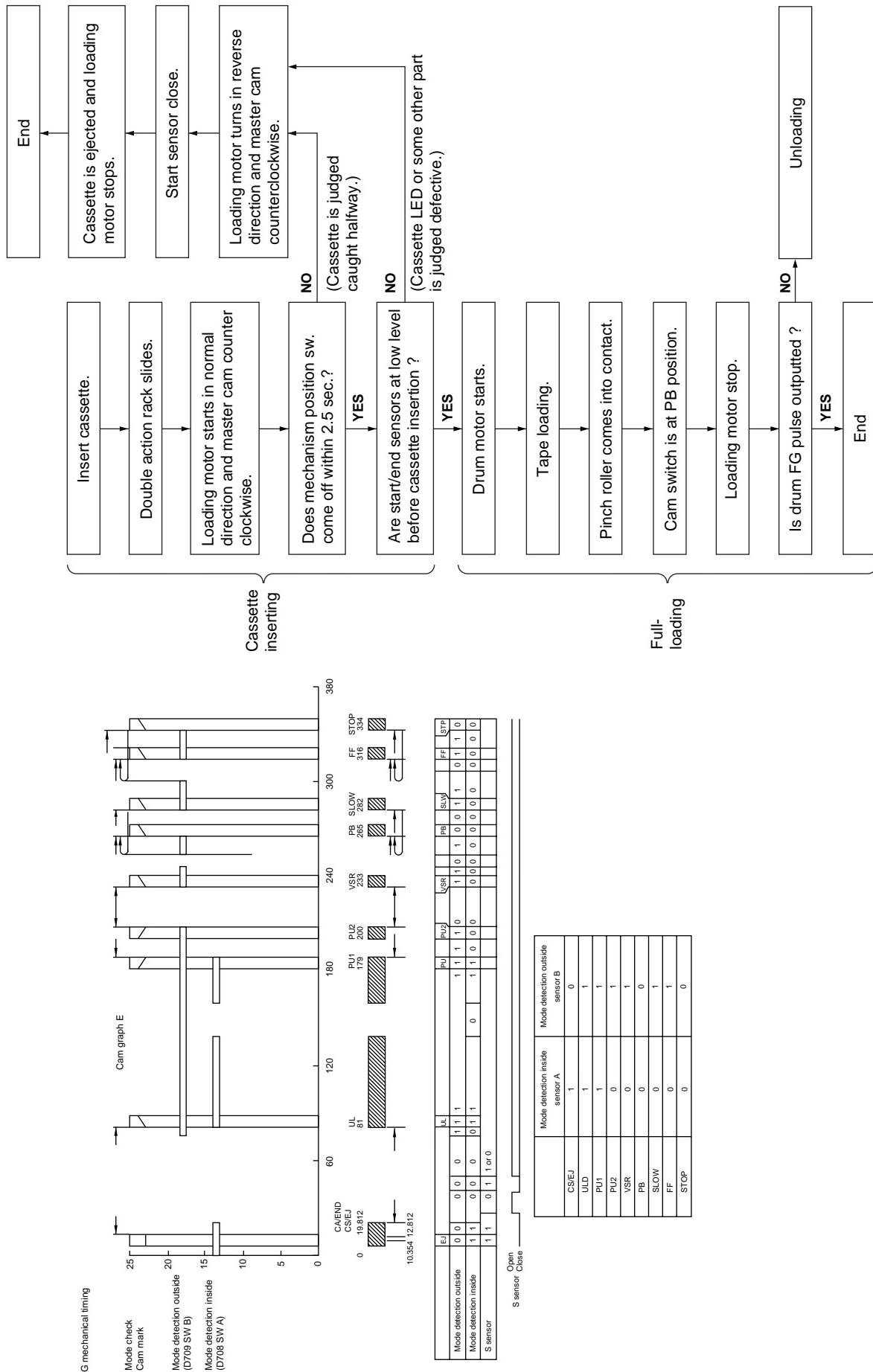
Self-recorded tape is a cassette whose program was recorded by the unit being adjusted.

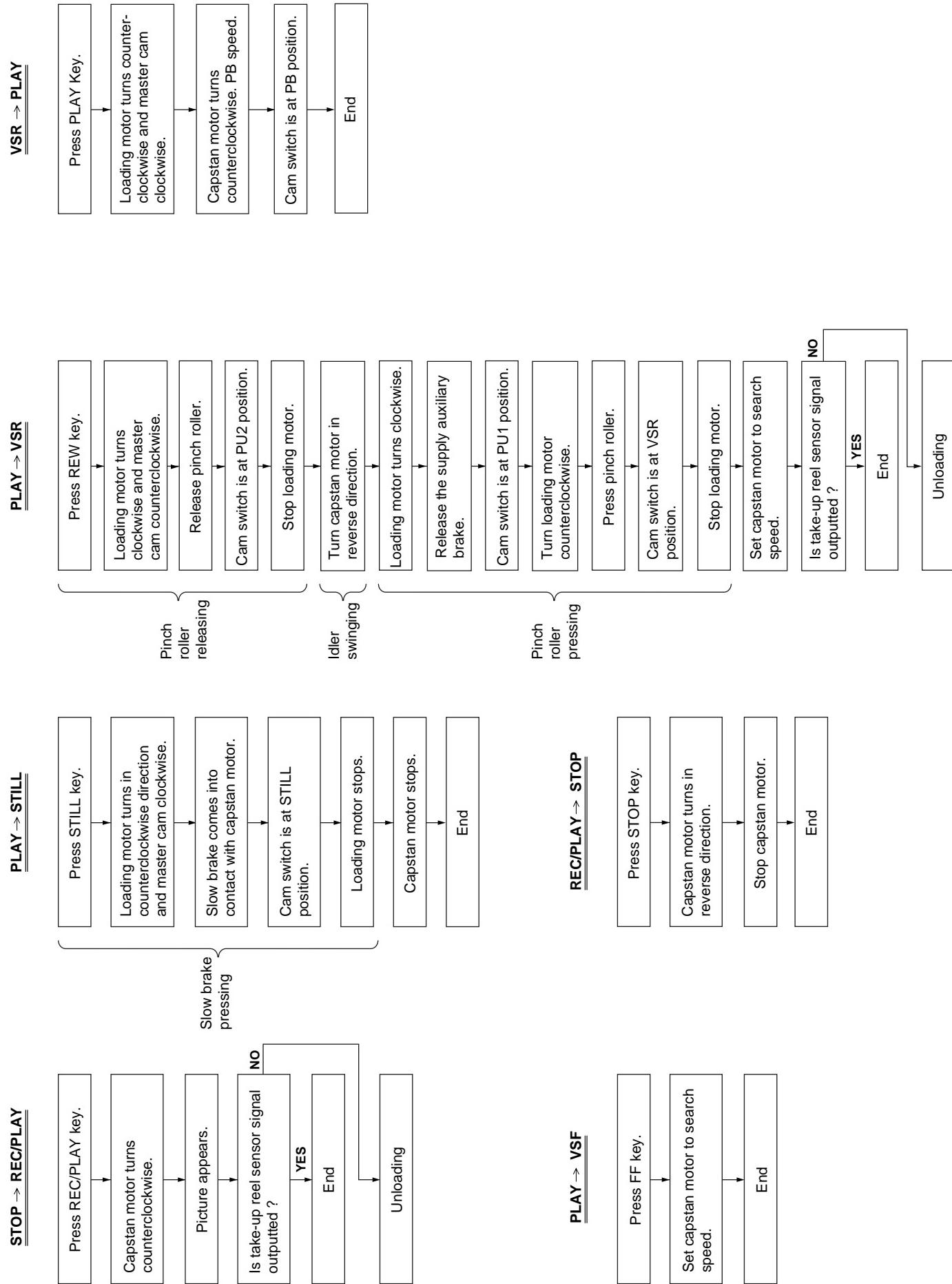
## 6. MECHANISM OPERATION FLOWCHART AND TROUBLESHOOTING GUIDE

### MECHANISM OPERATION FLOWCHART

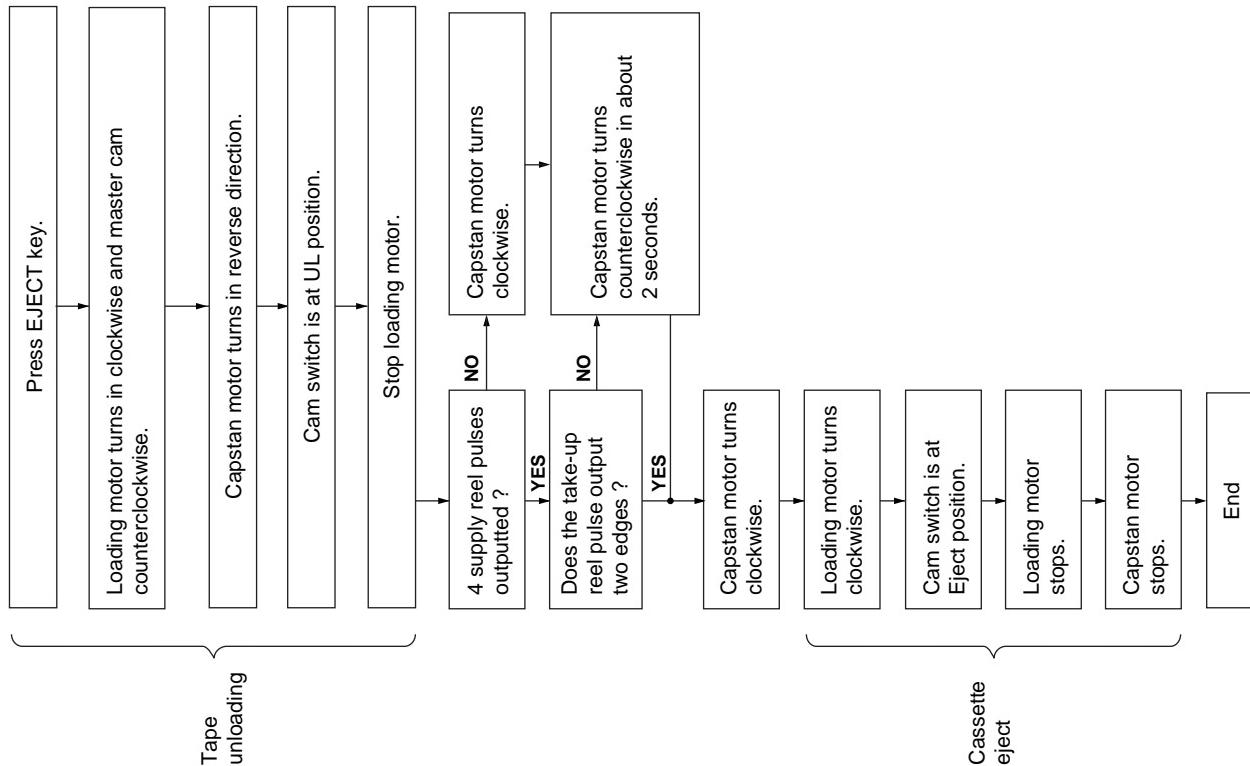
\* This flowchart describes the outline of the mechanism's operation, but does not give its details.

### CASSETTE INSERTION → STOP

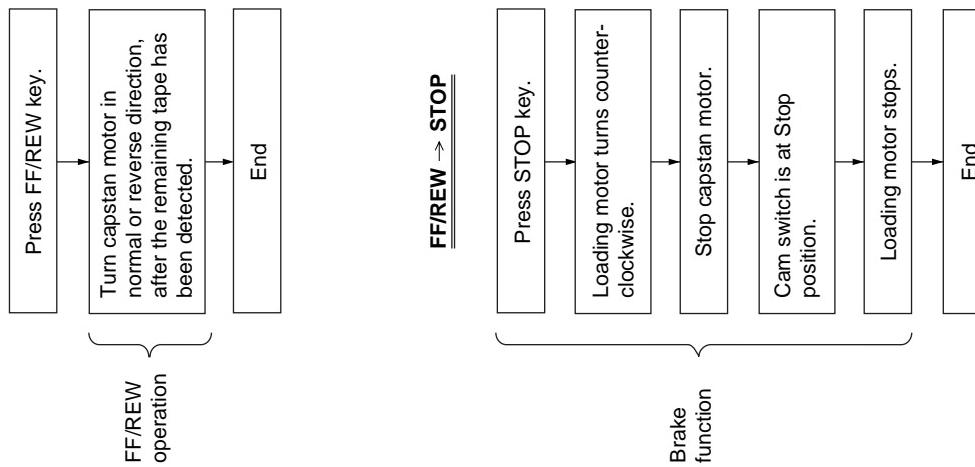




**STOP → CASSETTE EJECT**



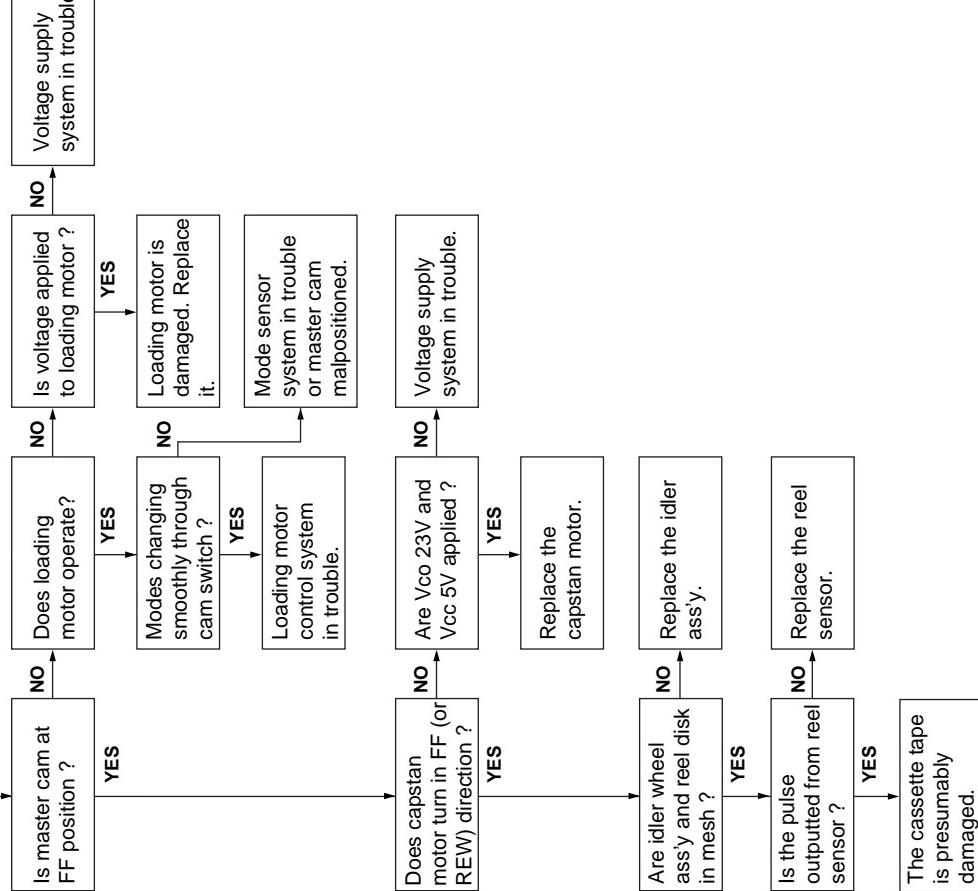
**STOP → FF/REW**



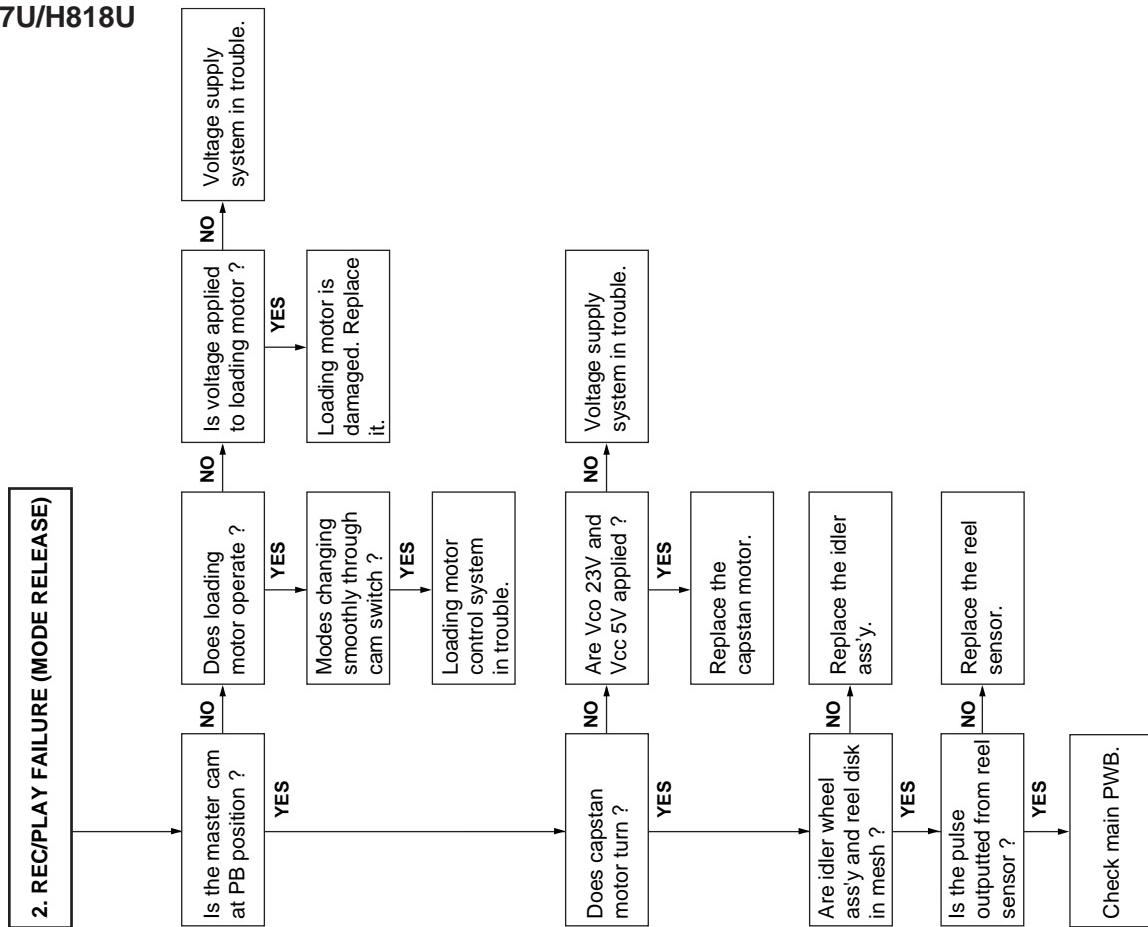
**MECHANISM TROUBLESHOOTING**

**1. FF/REW FAILURE (NO TAPE WINDING)**

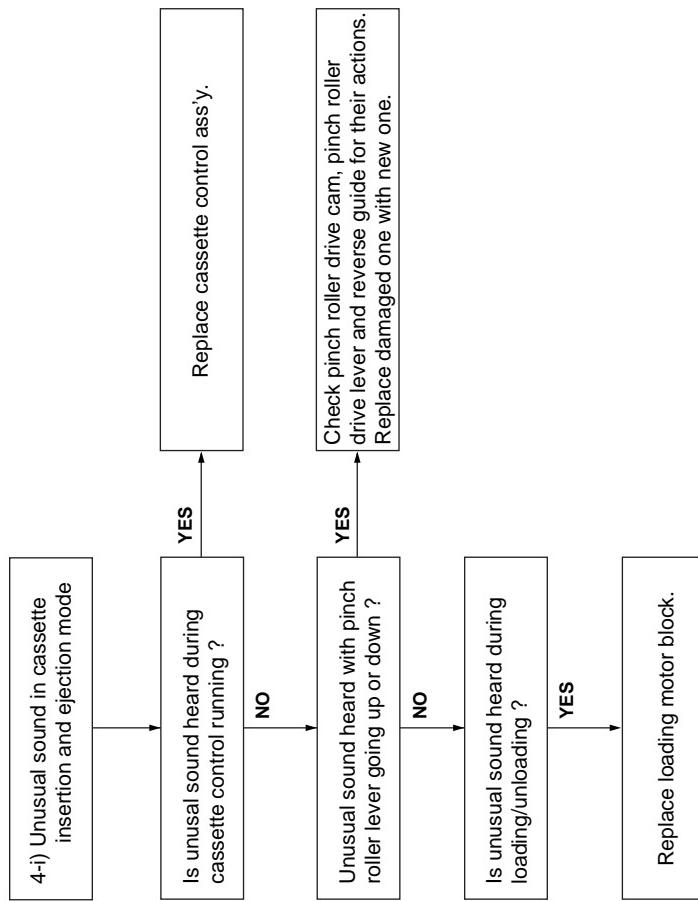
Press FF key.



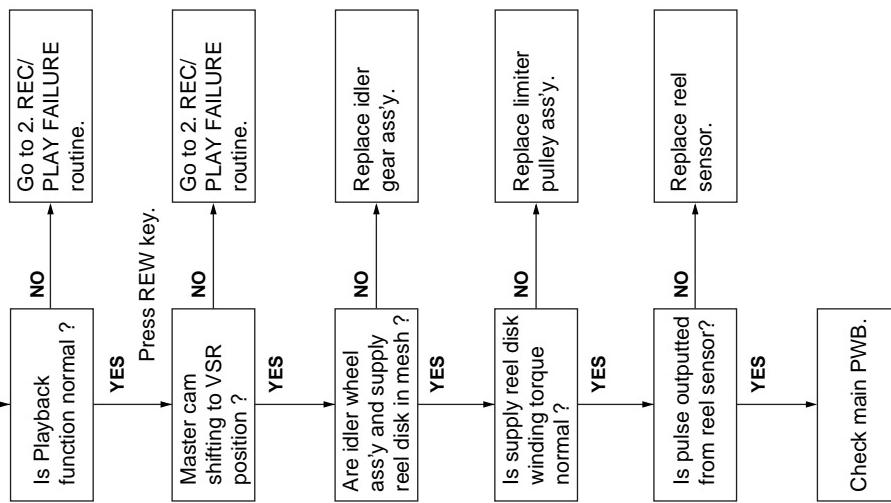
**2. REC/PLAY FAILURE (MODE RELEASE)**

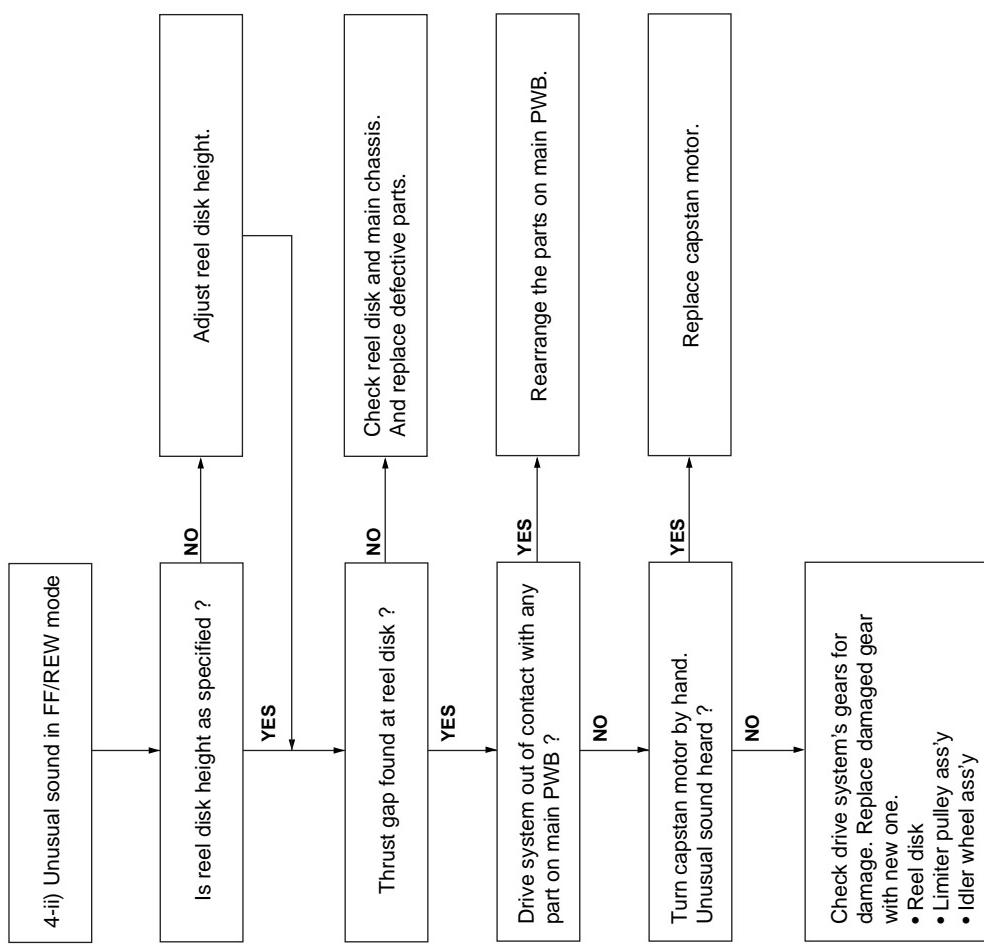


**4. UNUSUAL SOUND IN EACH MODE**



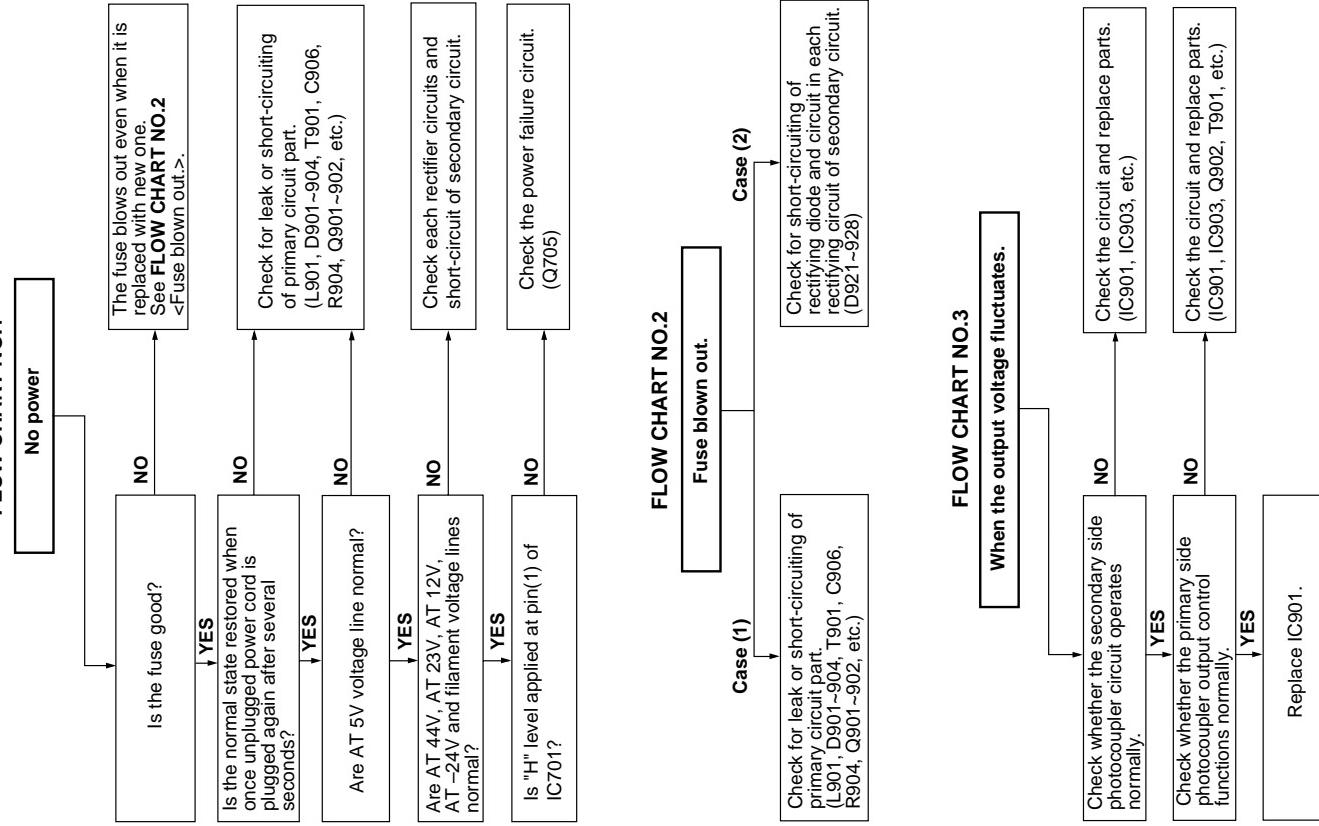
**3. WINDING FAILURE AT VSR**



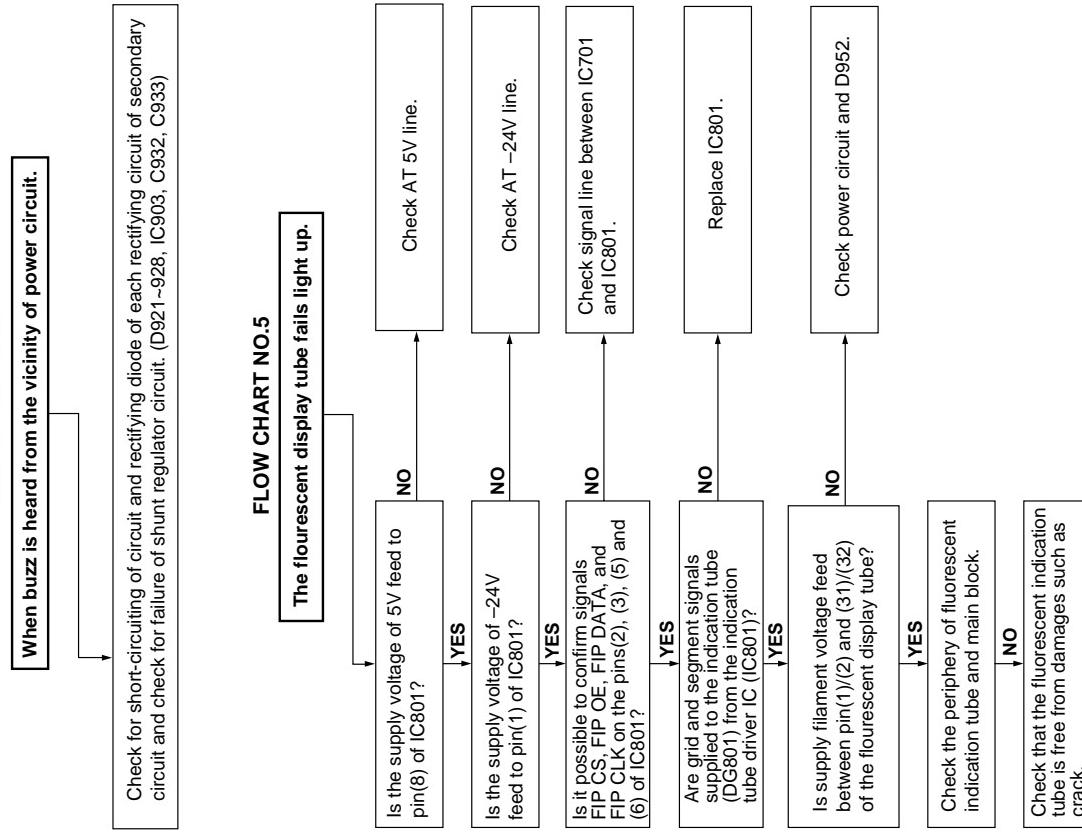


## 7. TROUBLESHOOTING

## FLOW CHART NO.1



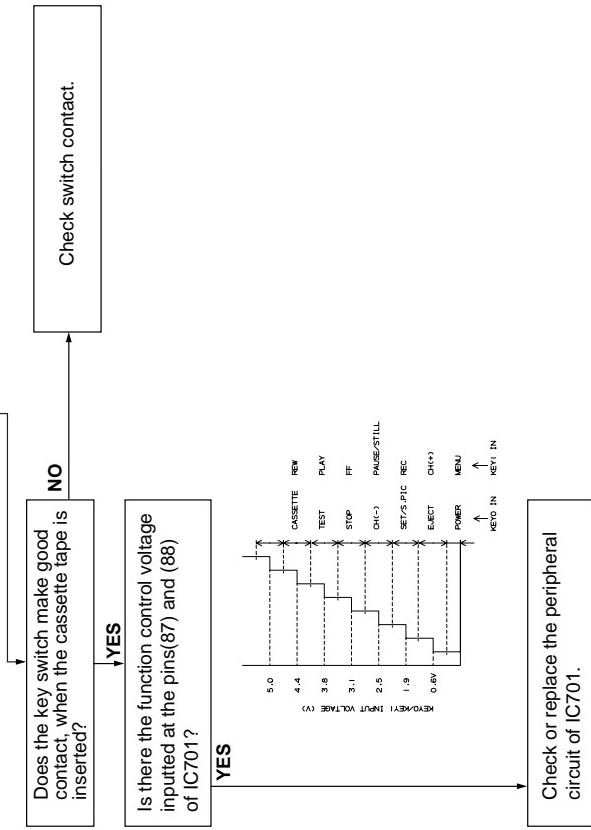
## FLOW CHART NO.4



**VC-A415U/H815U  
VC-H817U/H818U**

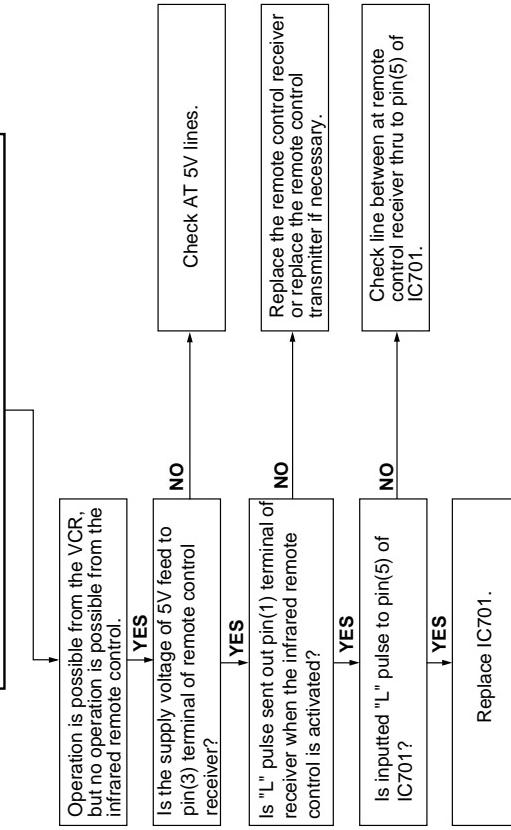
**FLOW CHART NO.6**

A cassette tape is not taken in.



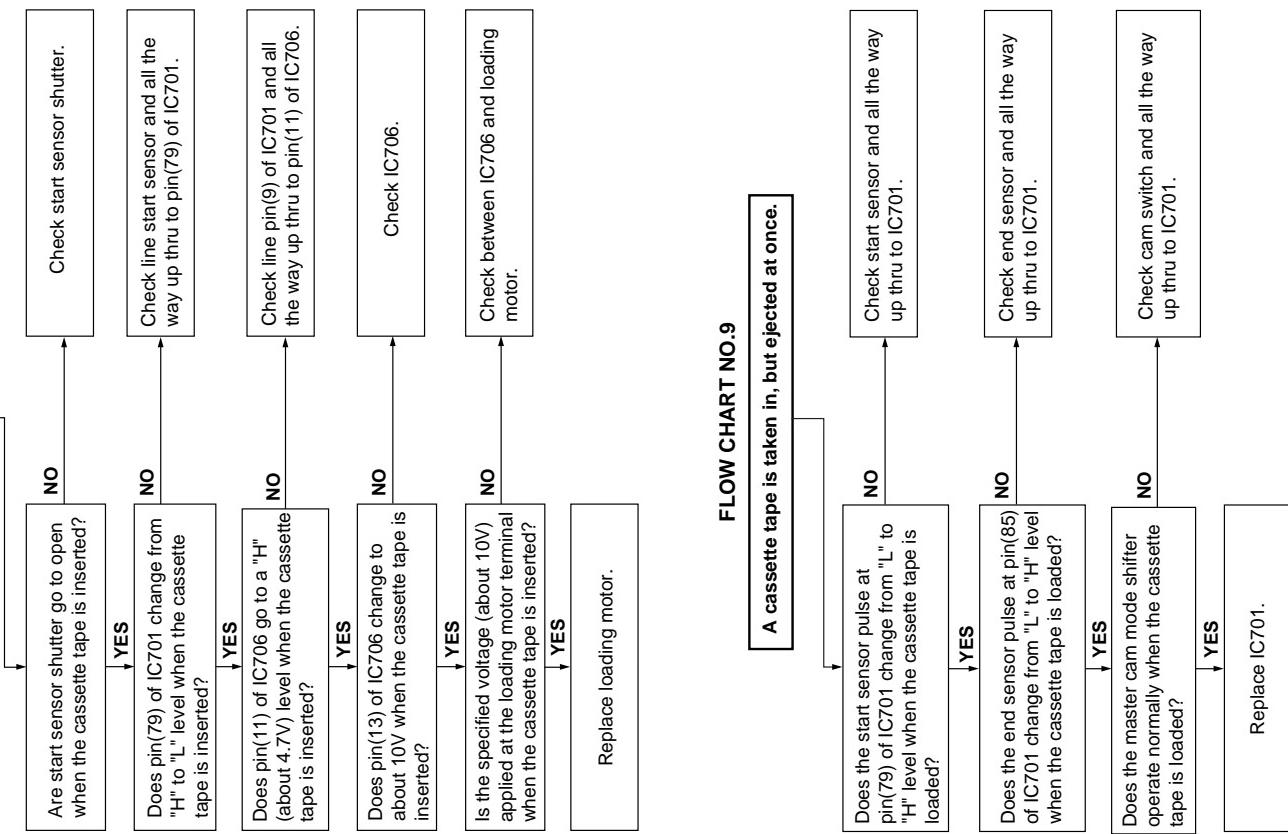
**FLOW CHART NO.7**

No operation is possible from the infrared remote control.



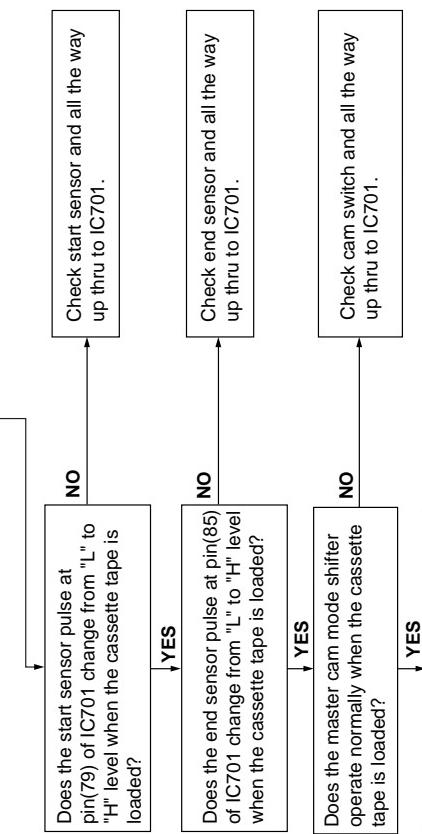
**FLOW CHART NO.8**

A cassette tape is not take in.

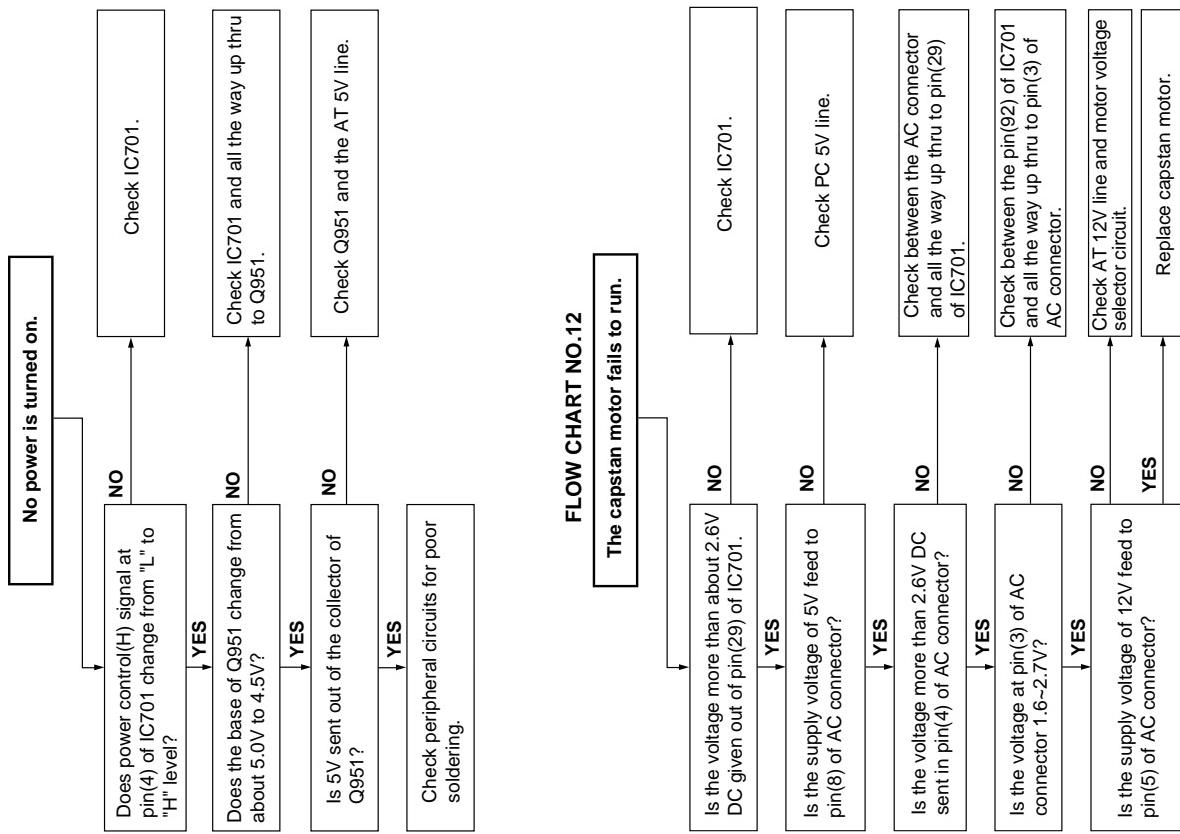


**FLOW CHART NO.9**

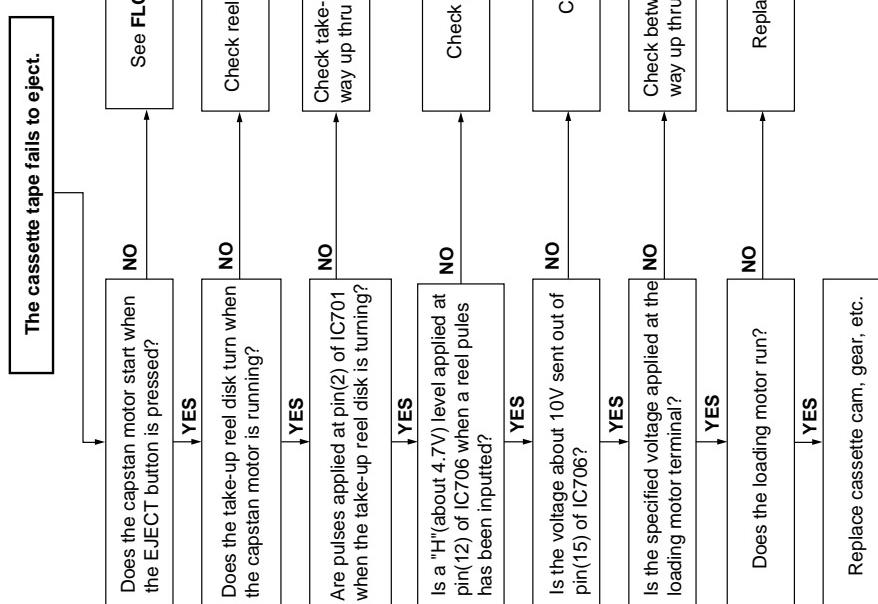
A cassette tape is taken in, but ejected at once.



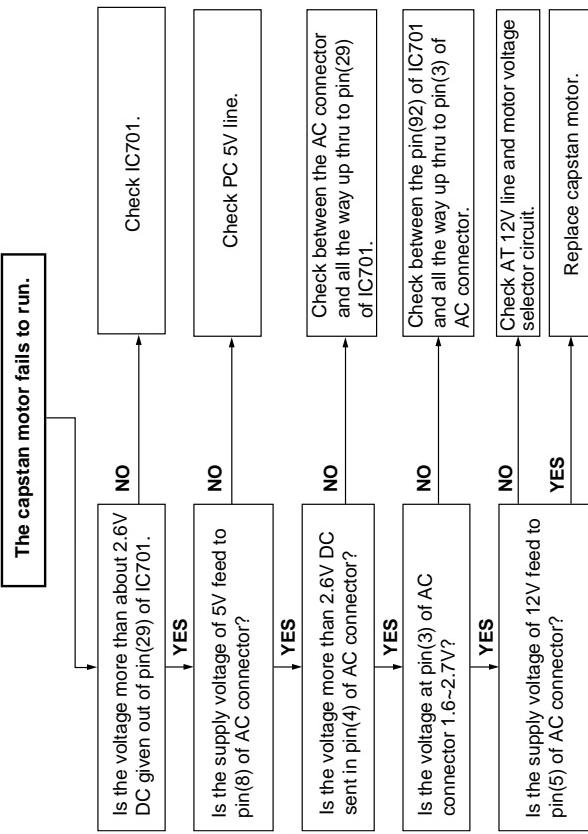
**FLOW CHART NO.11**



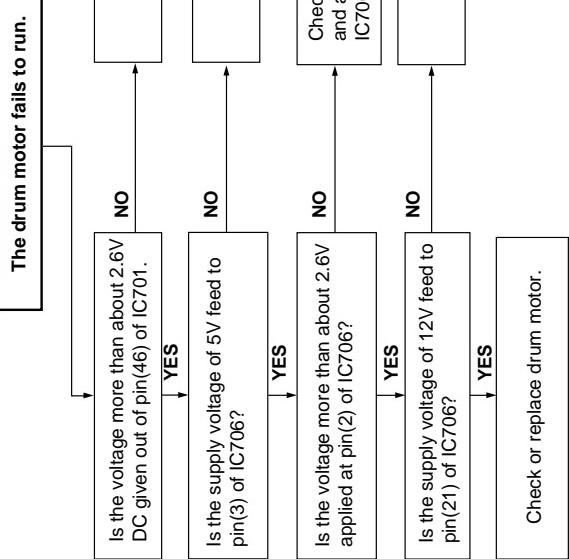
**FLOW CHART NO.10**



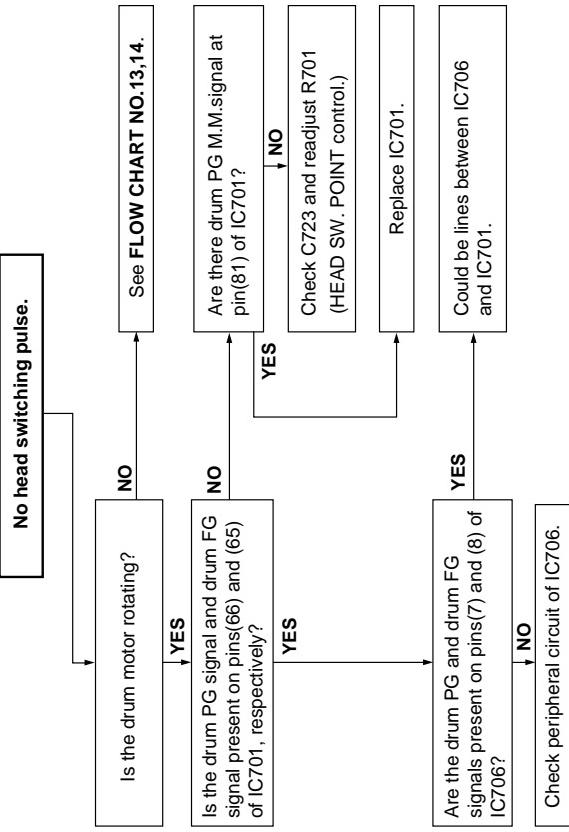
**FLOW CHART NO.12**



**FLOW CHART NO.13**

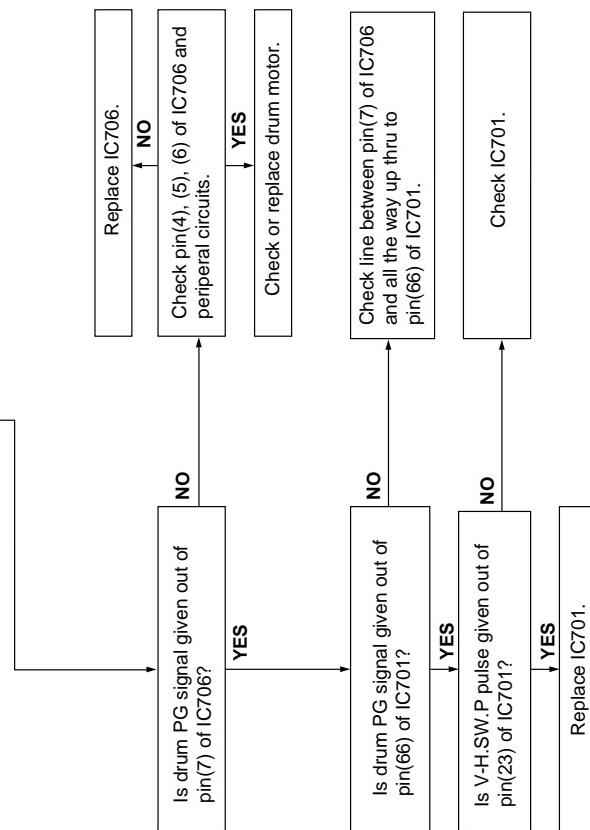


**FLOW CHART NO.15**

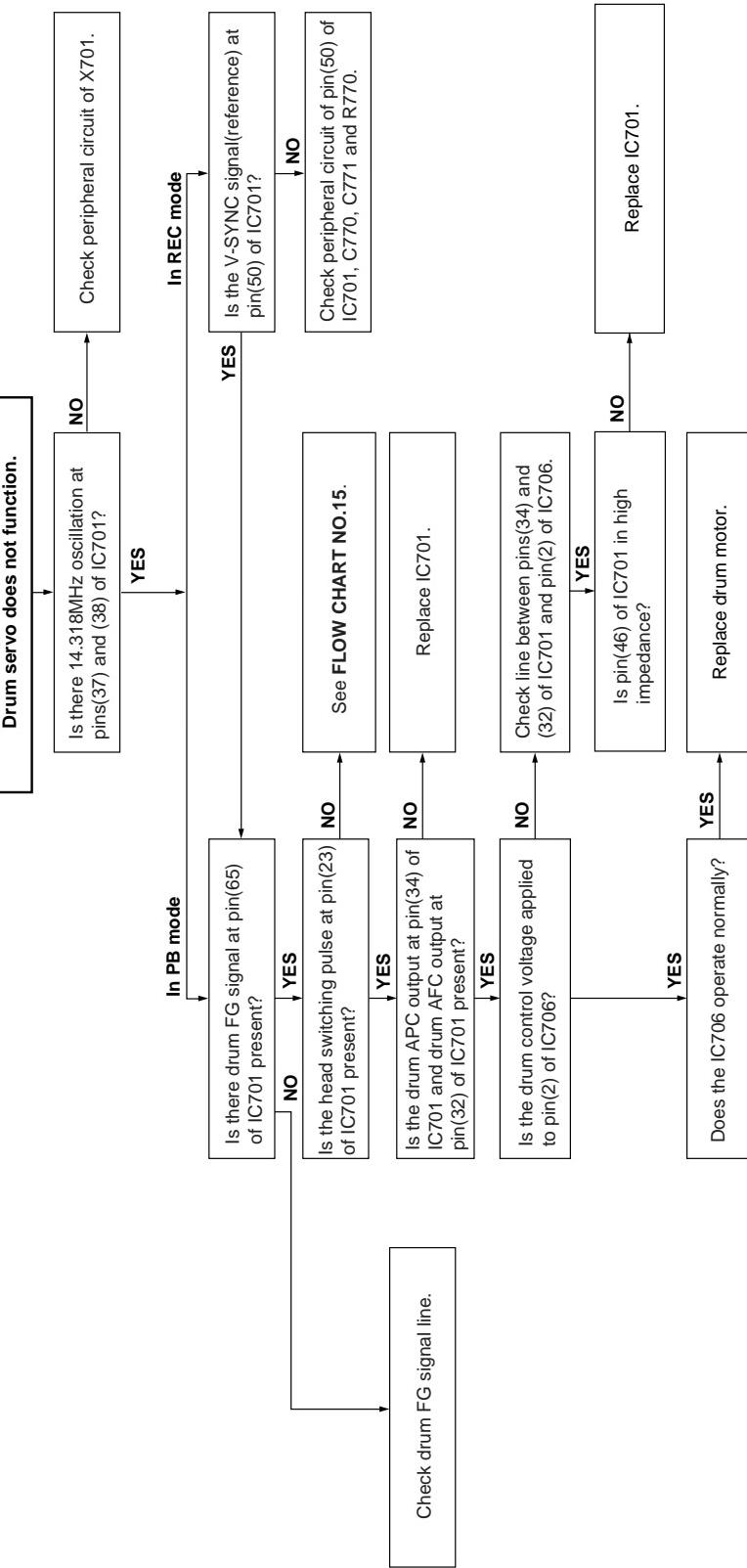


**FLOW CHART NO.14**

**The drum motor runs only for a few seconds.**



**FLOW CHART NO.16**



**FLOW CHART NO.17**

**Capstan servo does not function.**

(1)

Only PB mode inoperative

Are REC and/or PB mode inoperative?

YES

Is there 14.318MHz oscillation at pins (37) and (38) of IC701?

NO

Check peripheral circuit of X701.

Check capstan motor unit and/or replace.

Is there capstan AFC and APC at pins(31) and (33) of IC701?

NO

Replace IC701.

Replace A/C head.

NO

Does A/C head operate normally?

YES

Adjust the height of the A/C head.

(2)

Only REC mode inoperative

Check peripheral circuit of pin(50) of IC701, C770, C771 and R770.

Is the V-SYNC signal(reference) at pin(50) of IC701?

YES

Is there REC CTL signal output at pins(75) and (74) of IC701?

NO

Replace IC701.

NO

Is there capstan AFC signal at pin (31) of IC701?

YES

Is there capstan APC signal at pin (33) of IC701?

NO

Does PB CTL signal appear at pin (76) of IC701?

NO

Check the capstan FG signal line between pin(6) of AC connector and pin (67) of IC701.

NO

Check peripheral circuit of AC connector.

NO

Does pin(29) of IC701 operate normally?

NO

Replace IC701.

YES

Check "(1)"

NO

Check "(2)"

NO

Replace IC701.

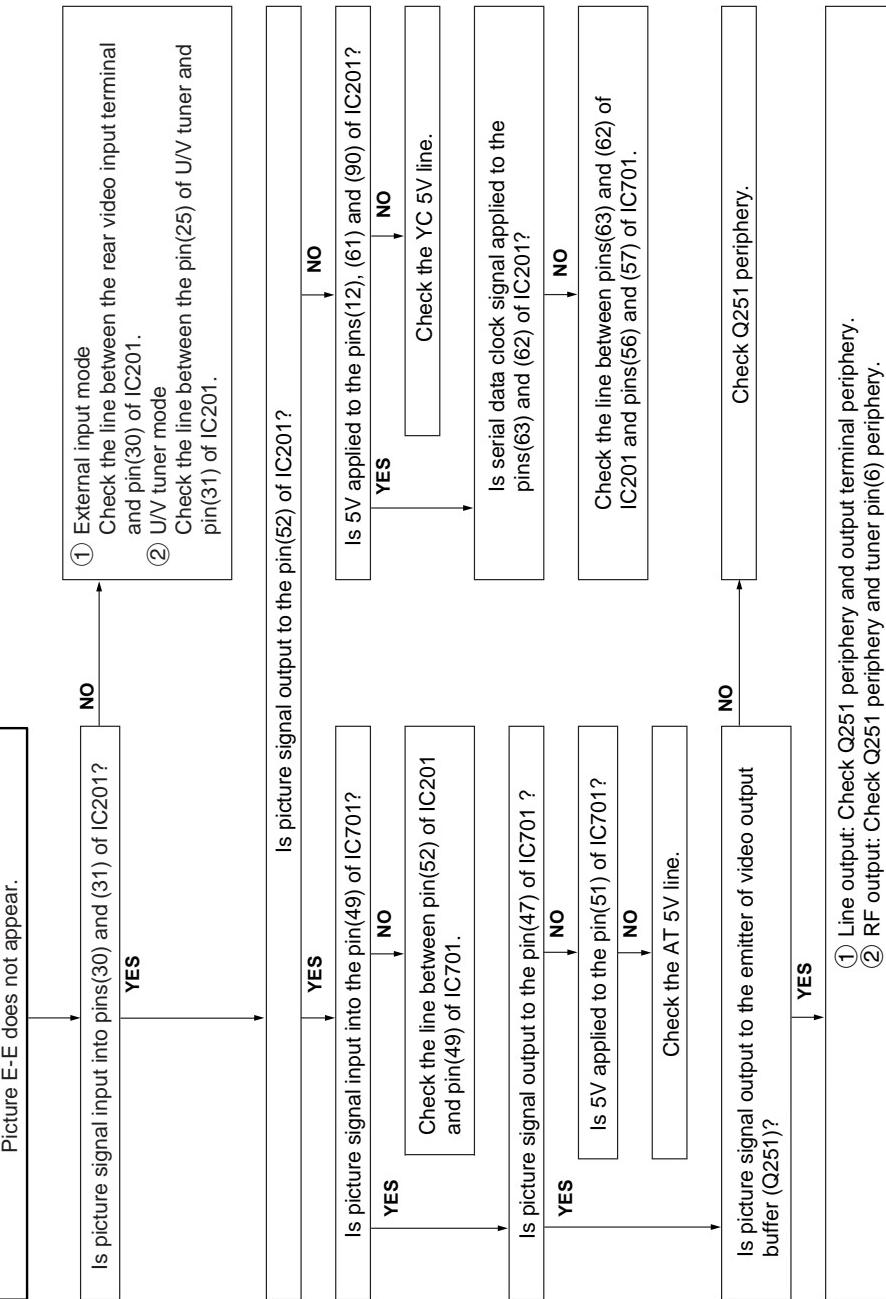
YES

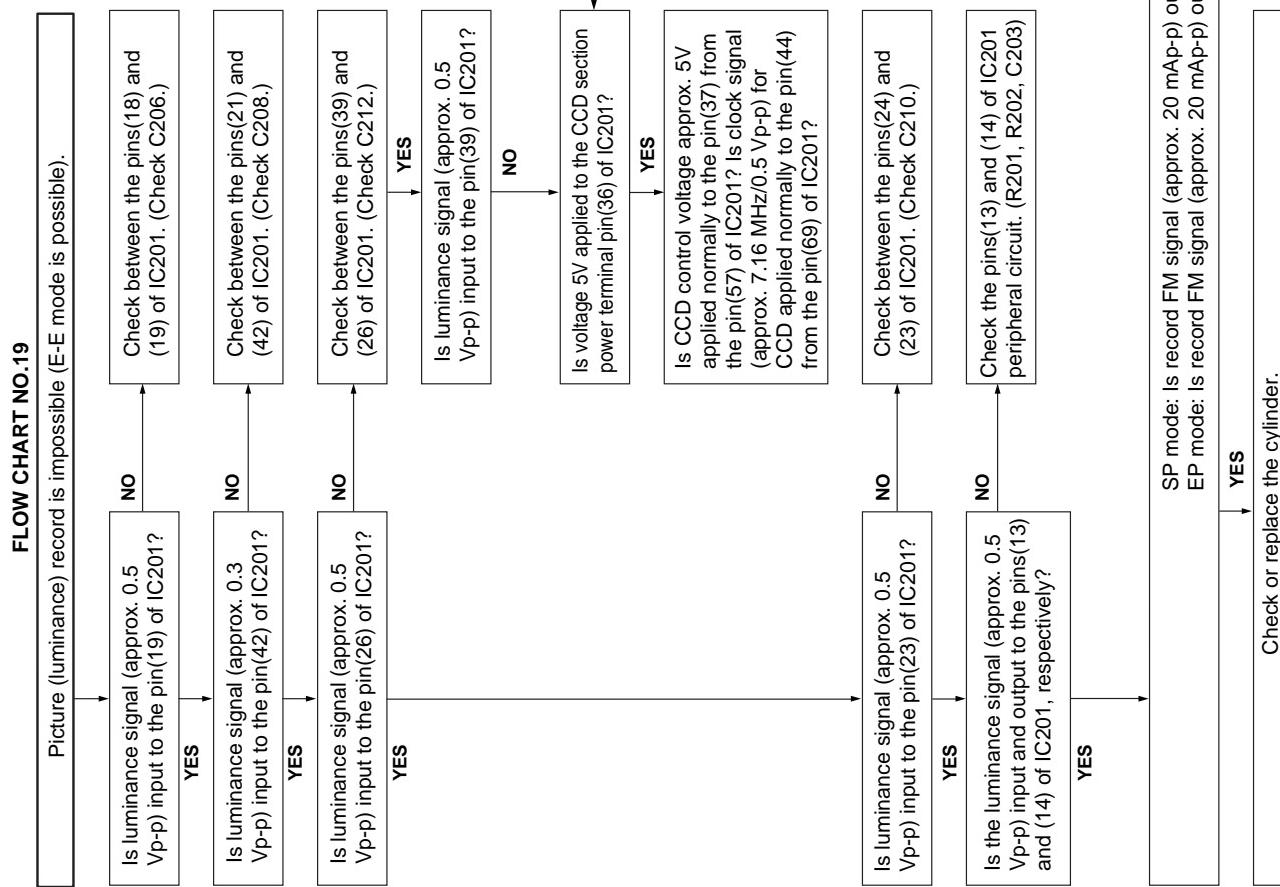
Does PB CTL signal appear at pin (76) of IC701?

NO

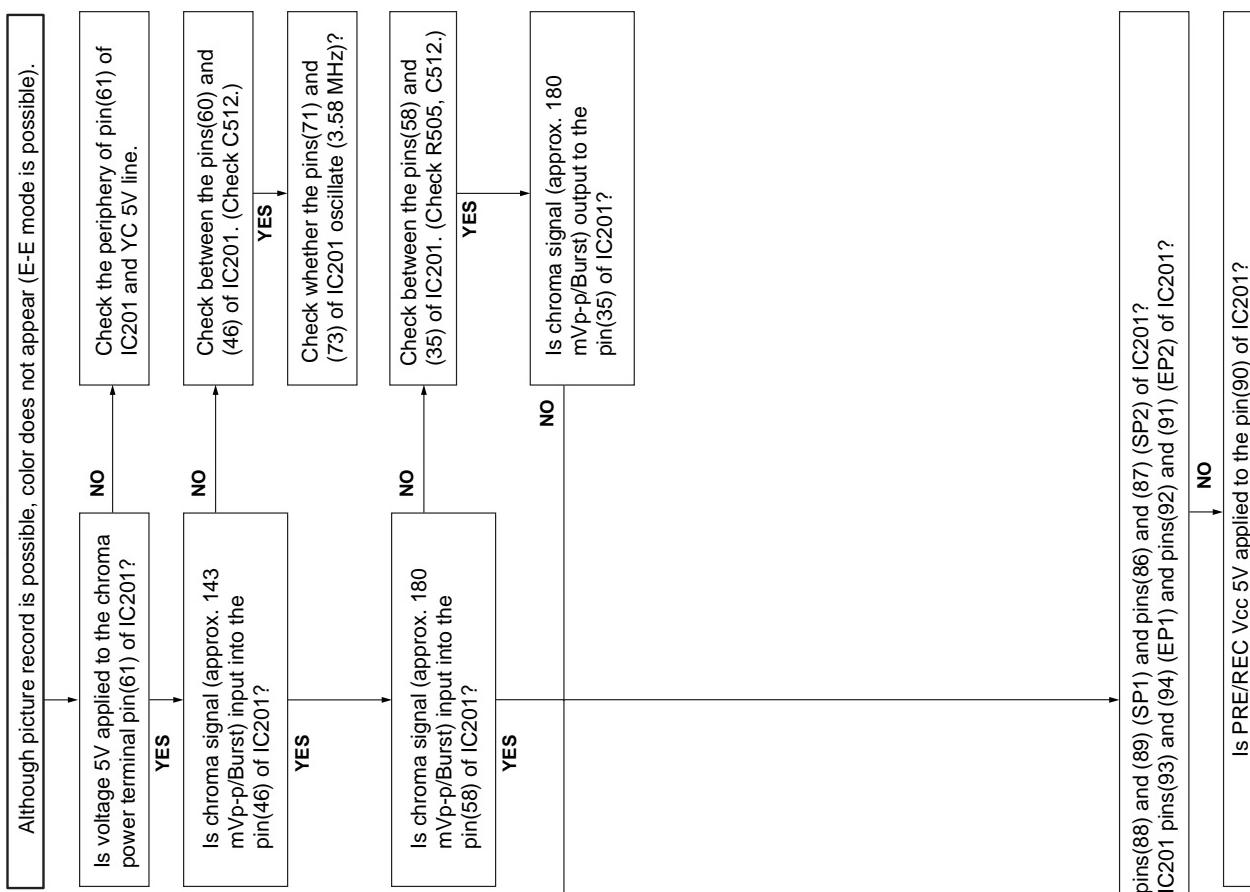
Replace A/C head.

**FLOW CHART NO.18**

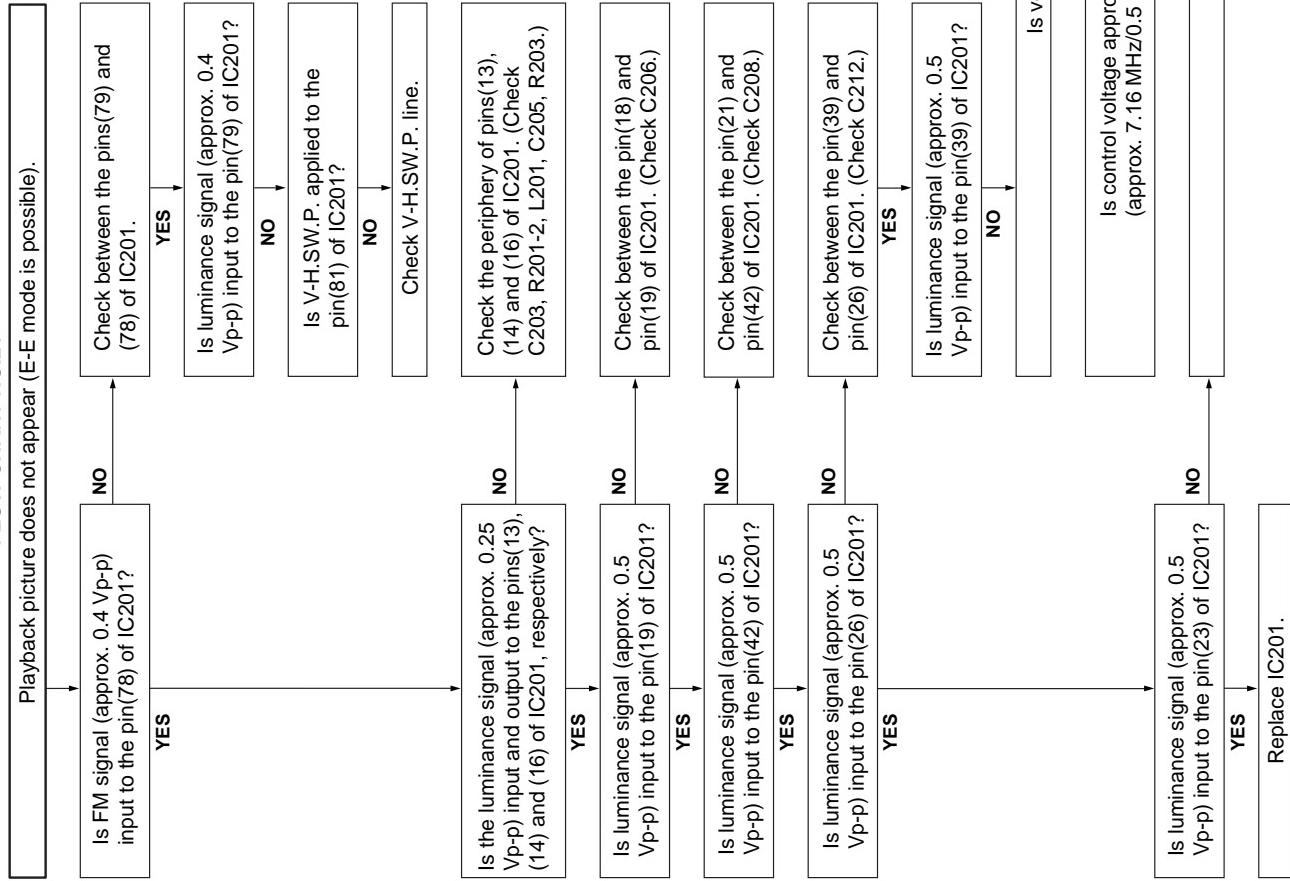




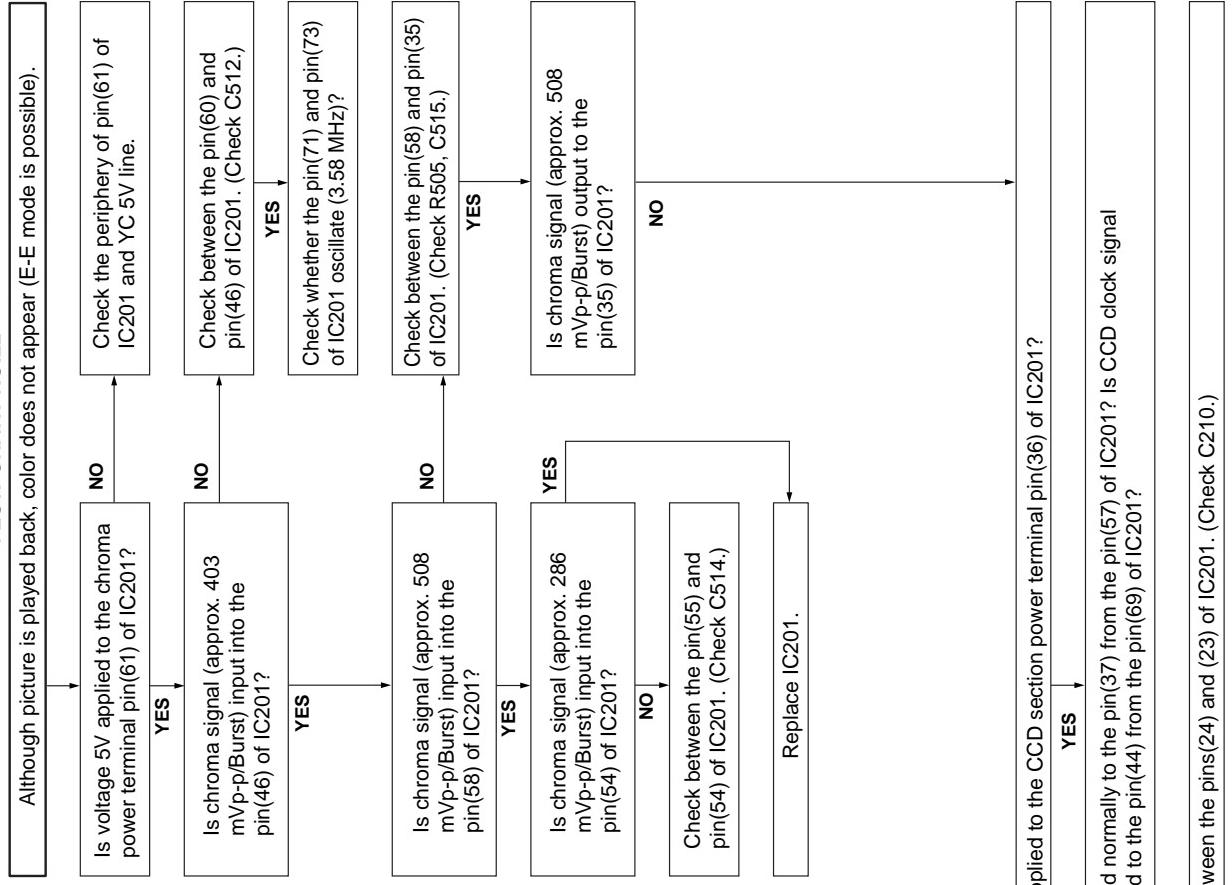
**FLOW CHART NO.20**



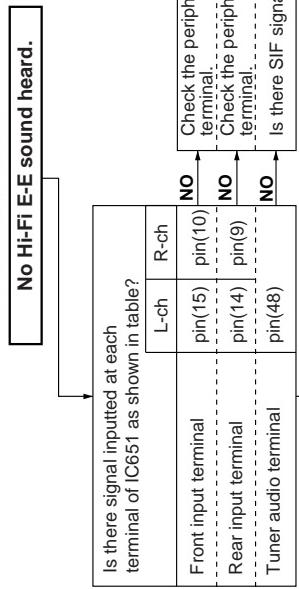
**FLOW CHART NO.21**



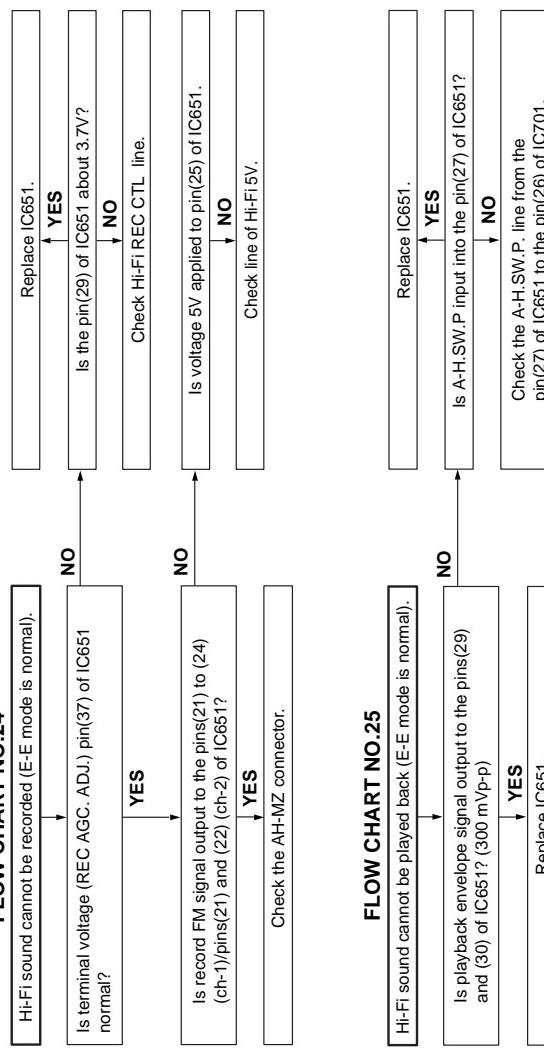
**FLOW CHART NO.22**



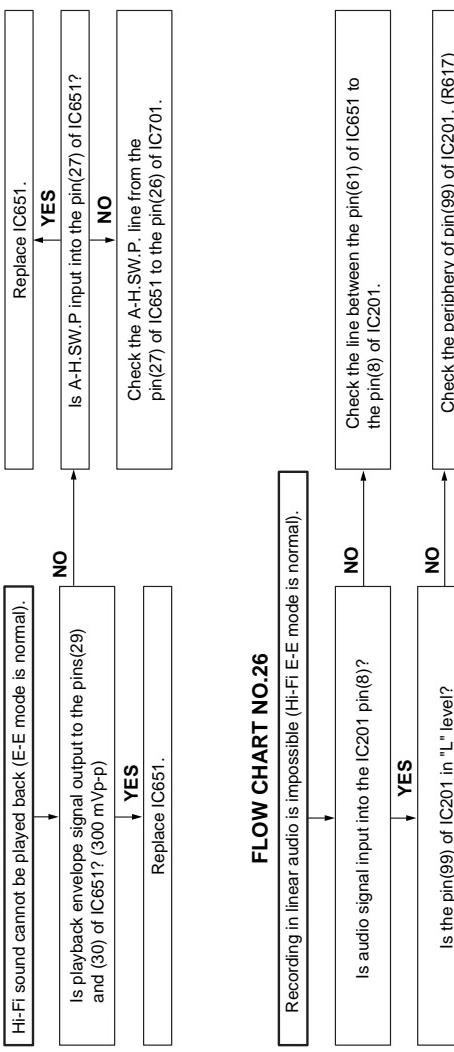
**FLOW CHART NO.23**



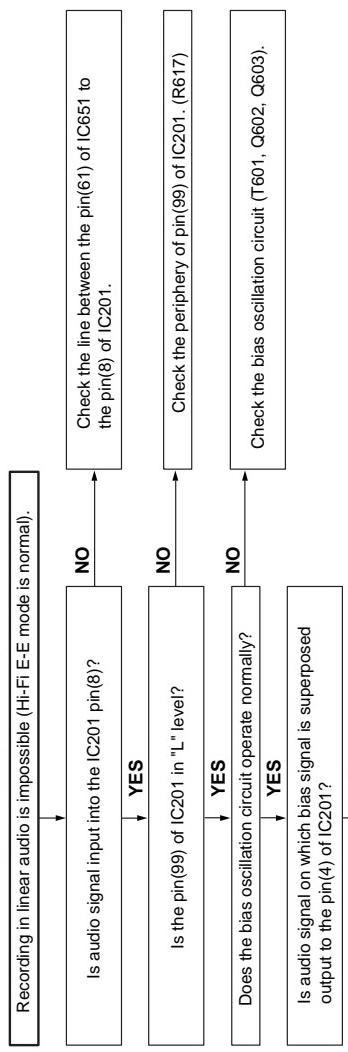
**FLOW CHART NO.24**



**FLOW CHART NO.25**

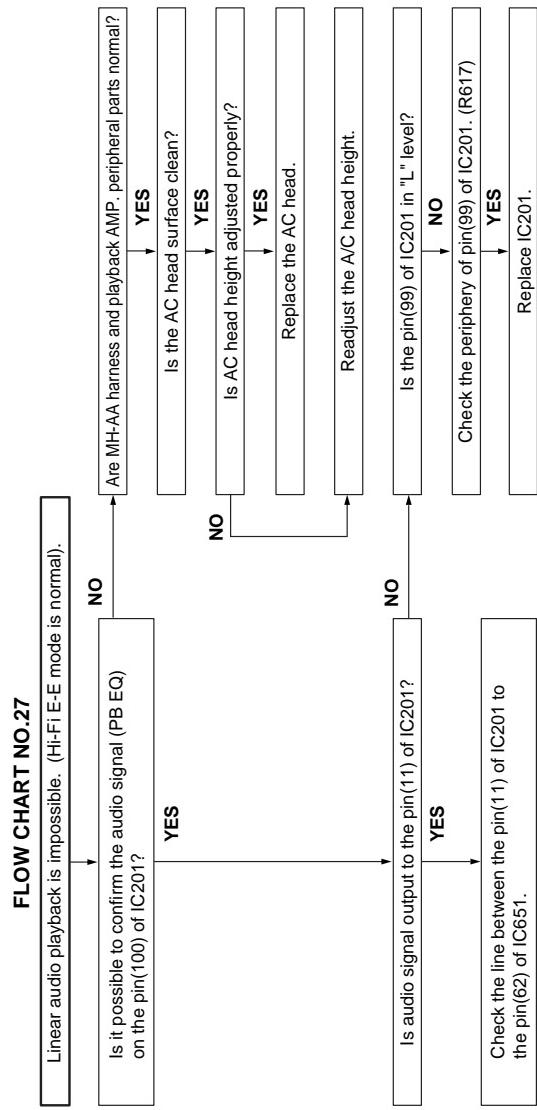


**FLOW CHART NO.26**

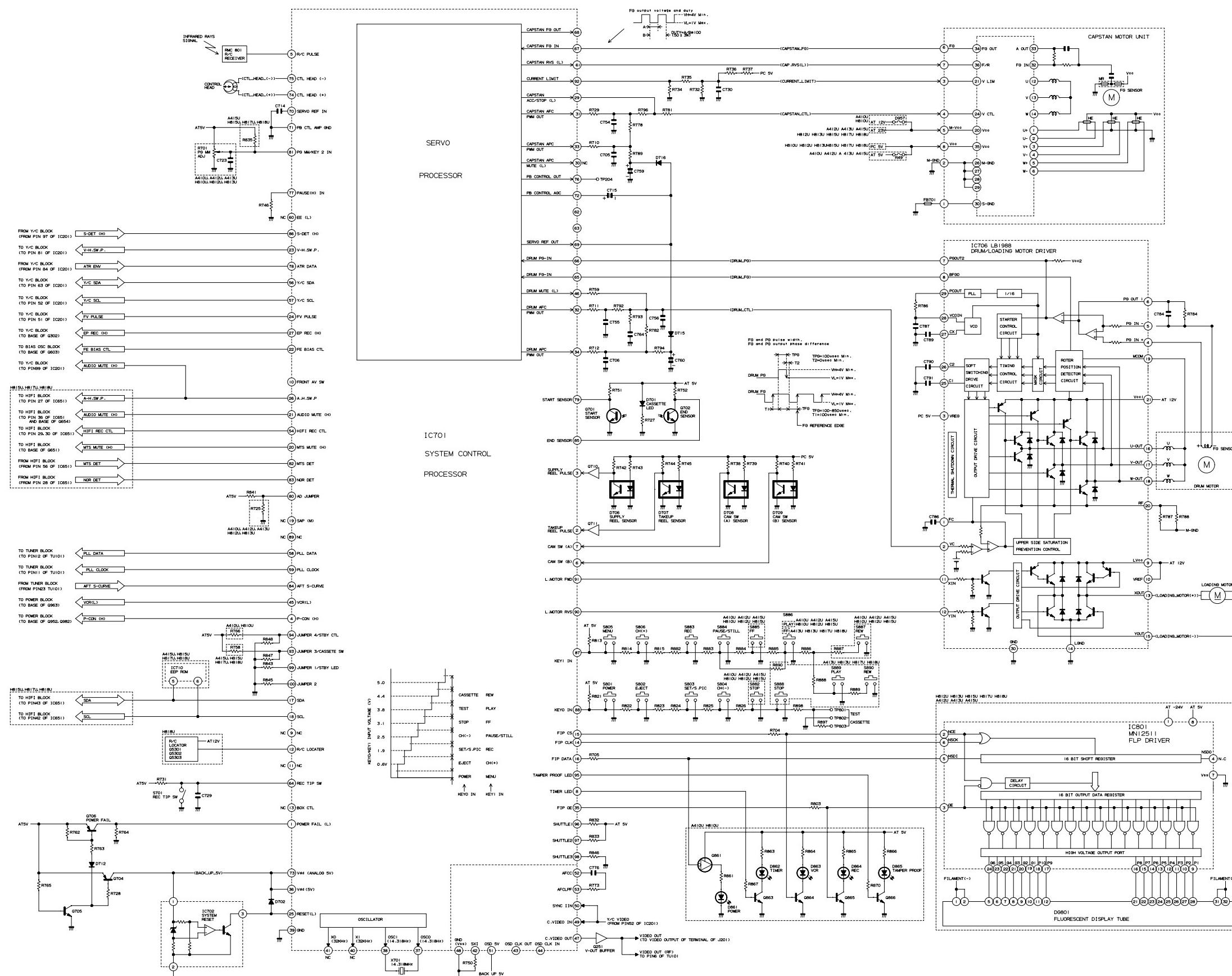


Line output terminal : Is there audio signal outputted at pins(53) and (57) of IC651?  
RF output terminal : Is there audio signal outputted at pin(59) of IC651?

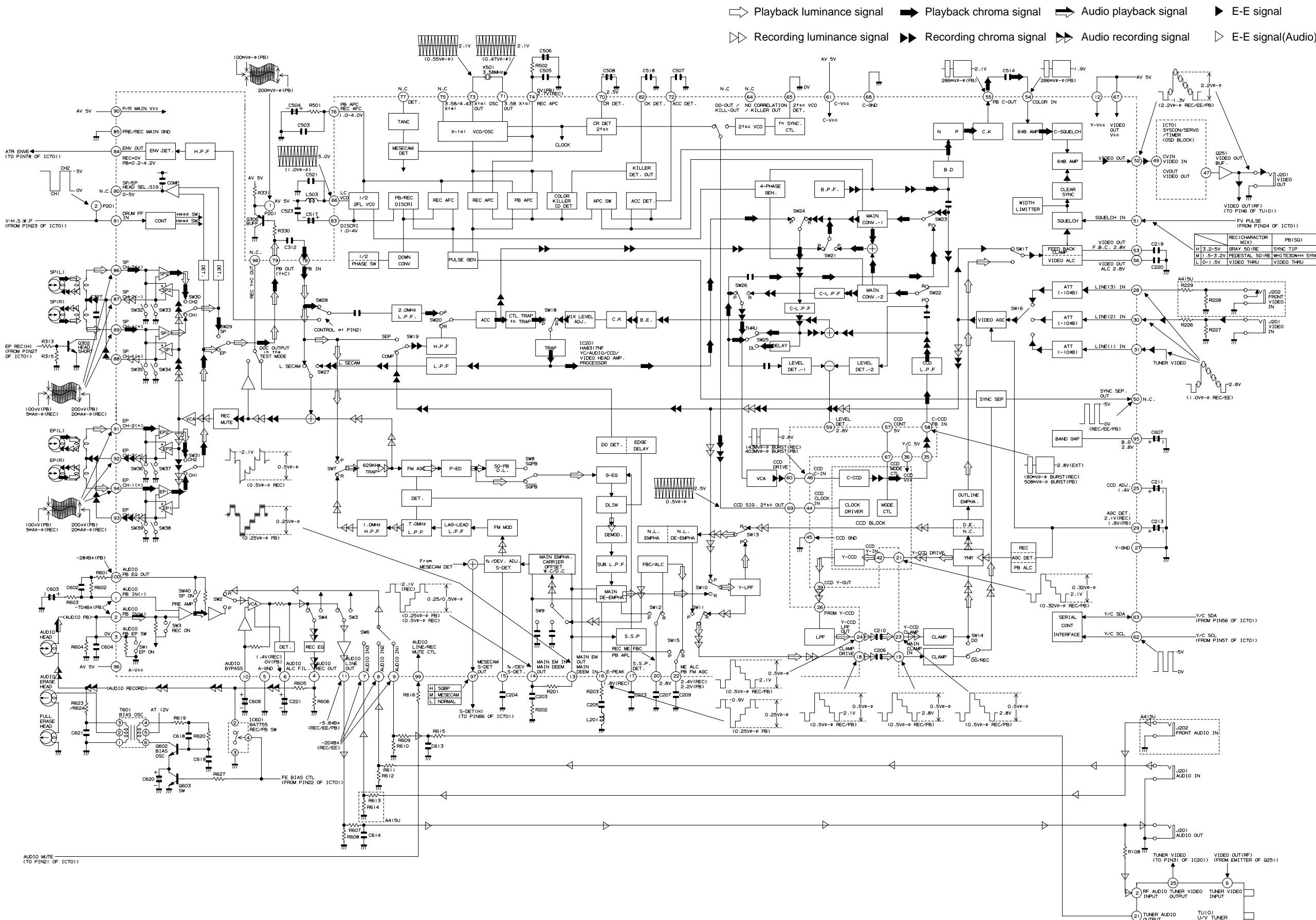




## **8. BLOCK DIAGRAM SYSTEM SERVO BLOCK DIAGRAM**

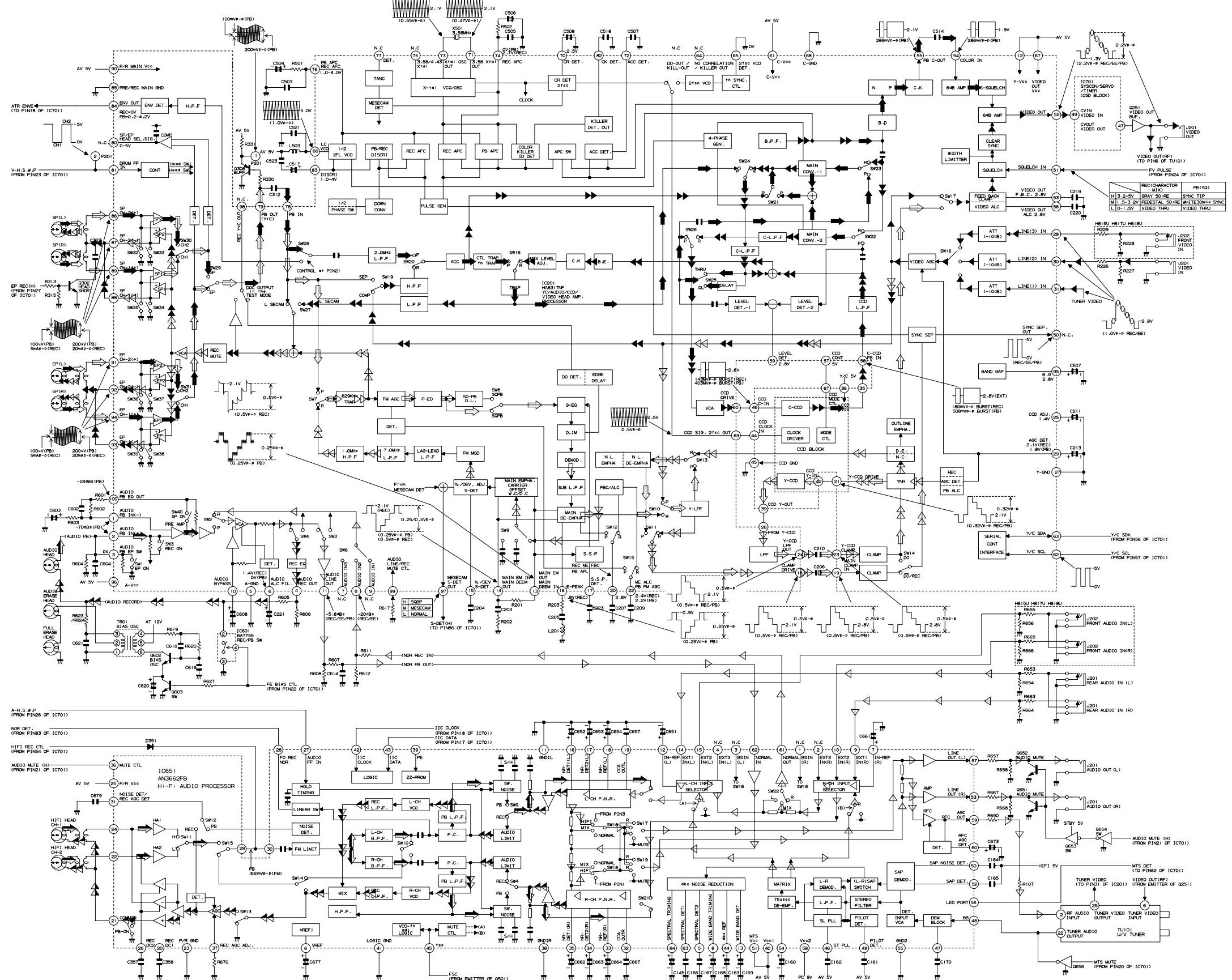


## SIGNAL FLOW BLOCK DIAGRAM(VC-A415U)

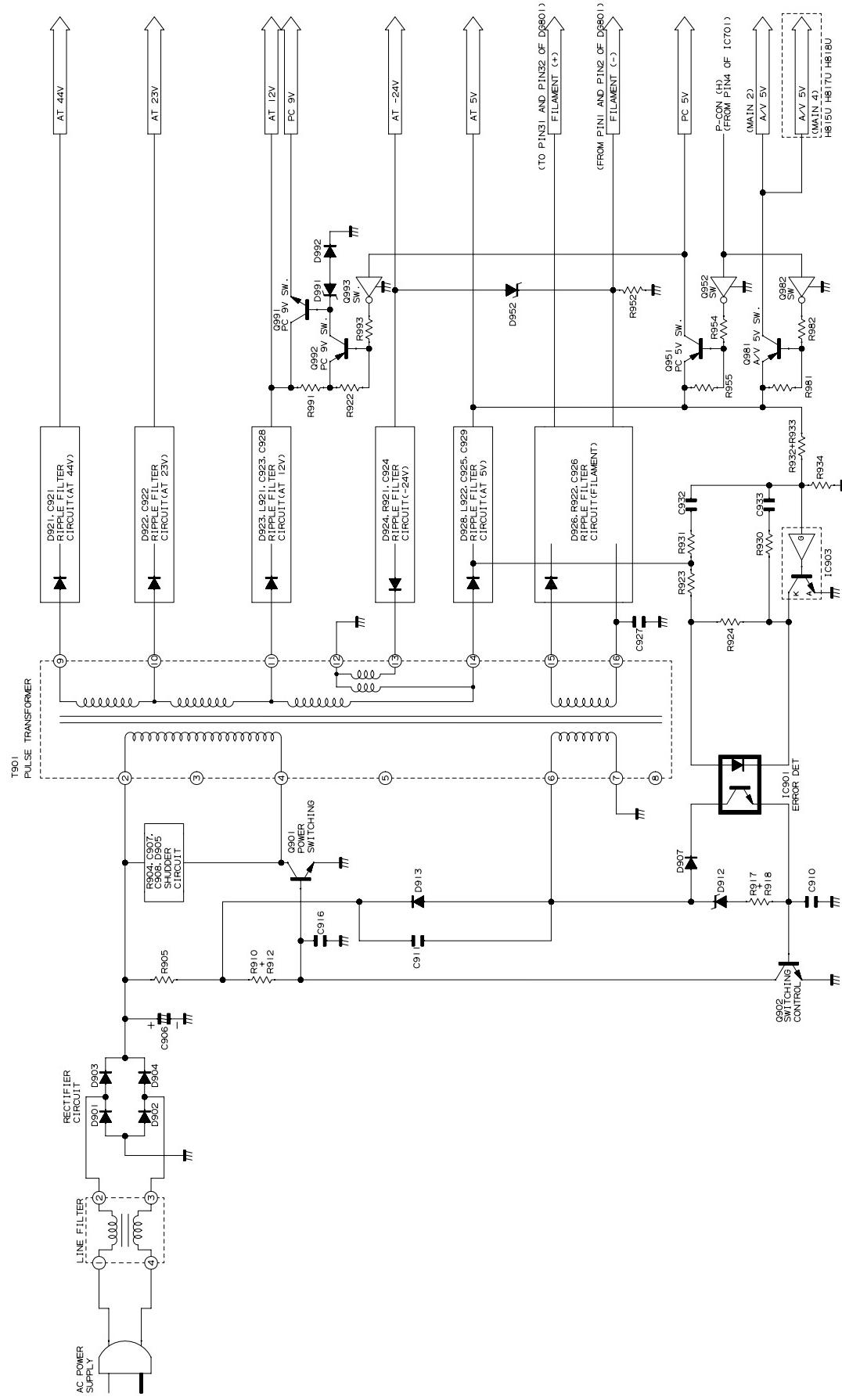


## SIGNAL FLOW BLOCK DIAGRAM(VC-H815U/H817U/H818U)

► Playback luminance signal      ► Playback chroma signal      ► Audio playback signal      ▶ E-E signal  
 ▷ Recording luminance signal      ▷ Recording chroma signal      ▷ Audio recording signal      ▷ E-E signal(Audio)



## POWER CIRCUIT BLOCK DIAGRAM



## SCHEMATIC DIAGRAM

### IMPORTANT SAFETY NOTICE:

PARTS MARKED WITH "⚠" (  ) ARE IMPORTANT FOR MAINTAINING THE SAFETY OF THE SET.

BE SURE TO REPLACE THESE PARTS WITH SPECIFIED ONES FOR MAINTAINING THE SAFETY AND PERFORMANCE OF THE SET.

- The indicated voltages in the following diagram are measured with an SSVM, upon receiving color bars (400 Hz sound signal) in either the record mode or the play mode voltage is indicated as follows.

4.0 . . . Record mode (SP)  
(4.0) . . . PB mode (SP)  
**4.0** . . . LP mode  
4.0 . . . EP mode

### AVIS DE SECURITE IMPORTANT:

LES PIECES MARQUEES "⚠" (  ) SONT IMPORTANTES POUR MAINTENIR LA SECURITE DE L'APPAREIL.

NE REMPLACER CES PIECES QUE PAR DES PIECES DONT LE NUMERO EST SPECIFIÉ POUR MAINTENIR LA SECURITE ET PROTEGER LE BON FONCTIONNEMENT DE L'APPAREIL.

### NOTE:

1. The unit of resistance "ohm" is omitted (K: 1000 ohms M: 1 Meg ohm).
2. All resistors are 1/8 watt, unless otherwise noted.
3. All capacitors  $\mu\text{F}$ , unless otherwise noted P:  $\mu\mu\text{F}$ .

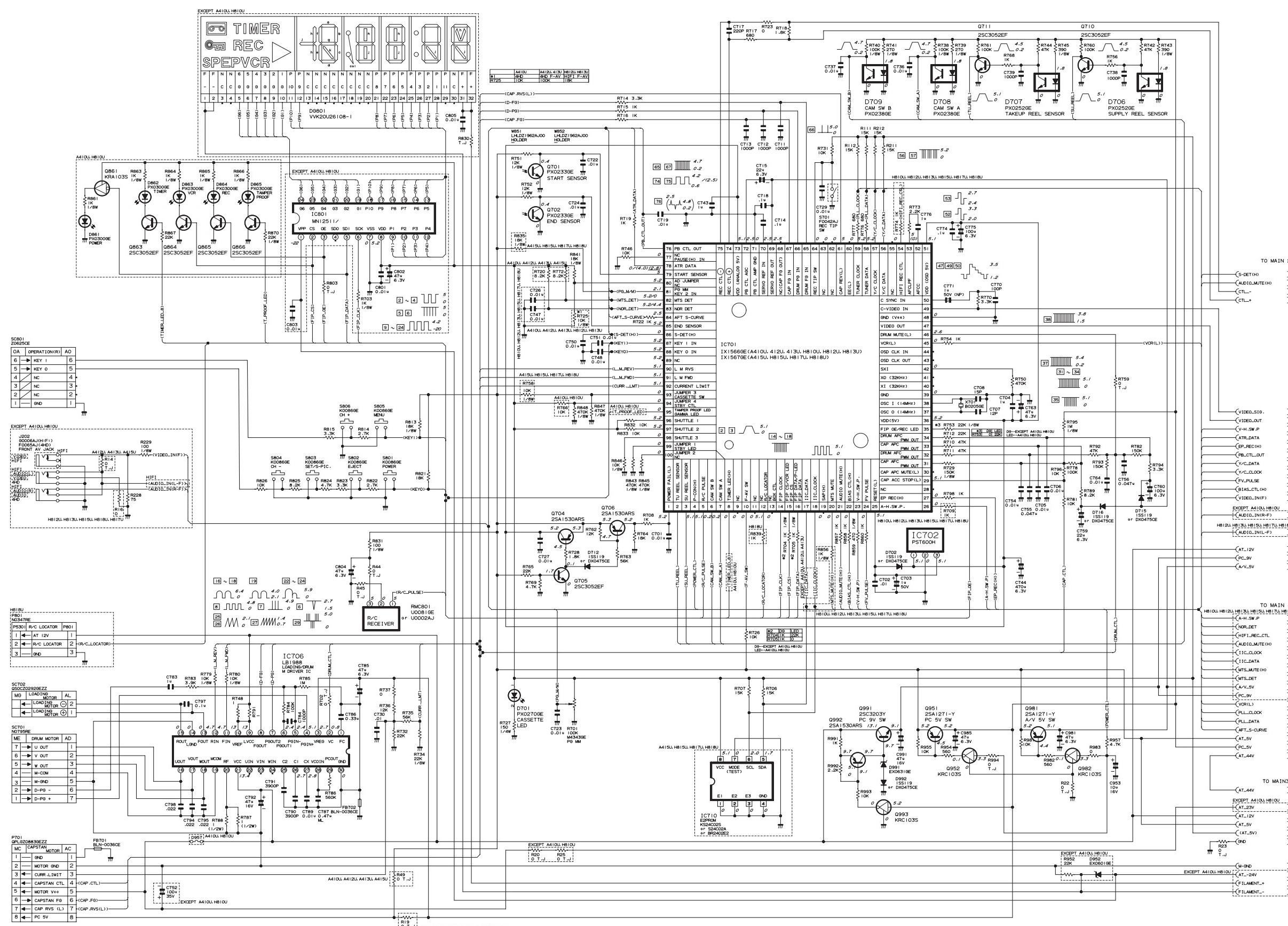
Voltages and waveform are measured as follows:

- DC voltages are measured with an SSVM placed between points indicated and chassis ground, with the supply voltage of 120V AC and all controls for normal positions.

This circuit diagram is a standard one, actual circuits printed may be subject to change for product improvement without prior notice.

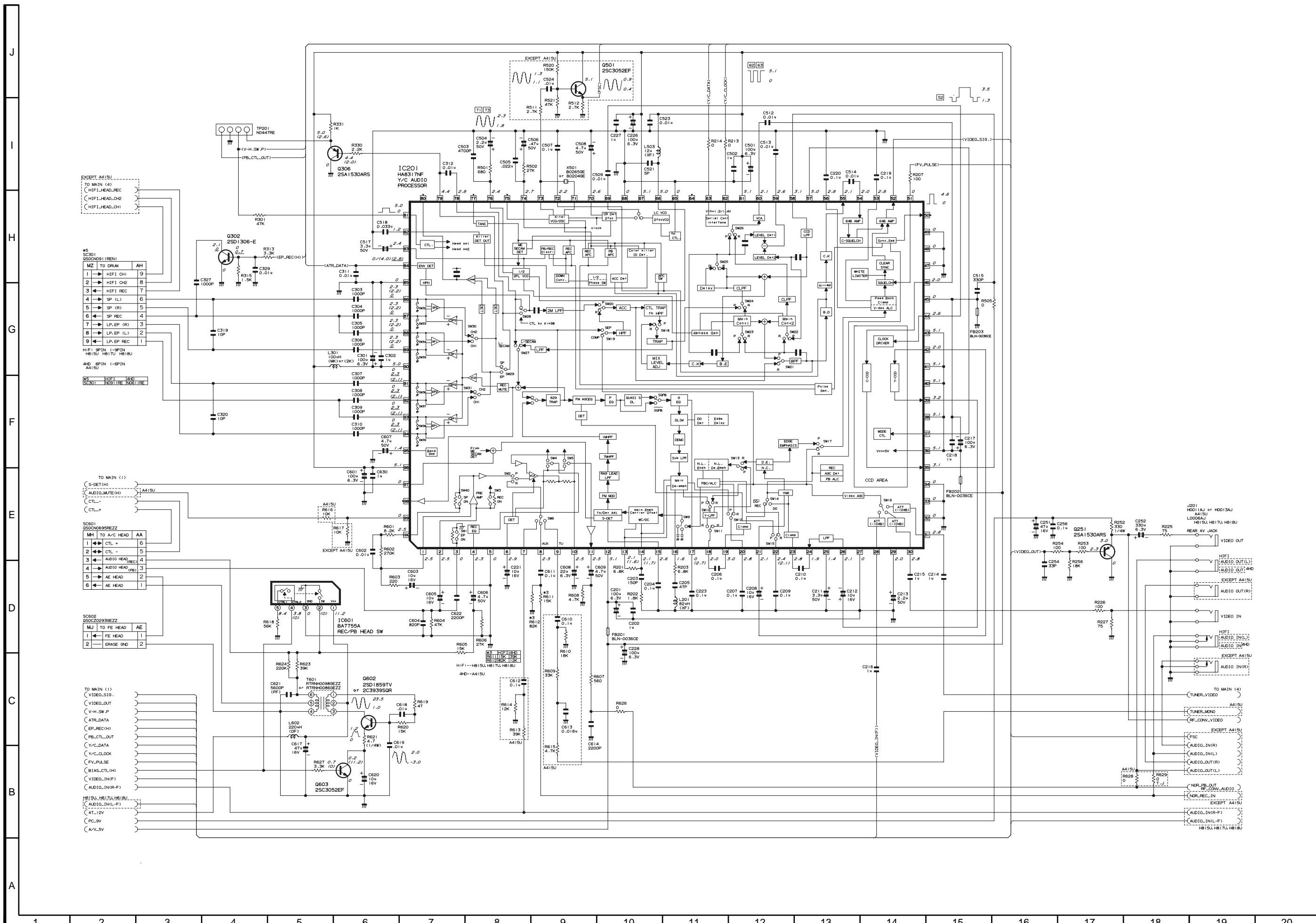
## 9. SCHEMATIC DIAGRAM AND PWB FOIL PATTERN

### MAIN CIRCUIT(1)



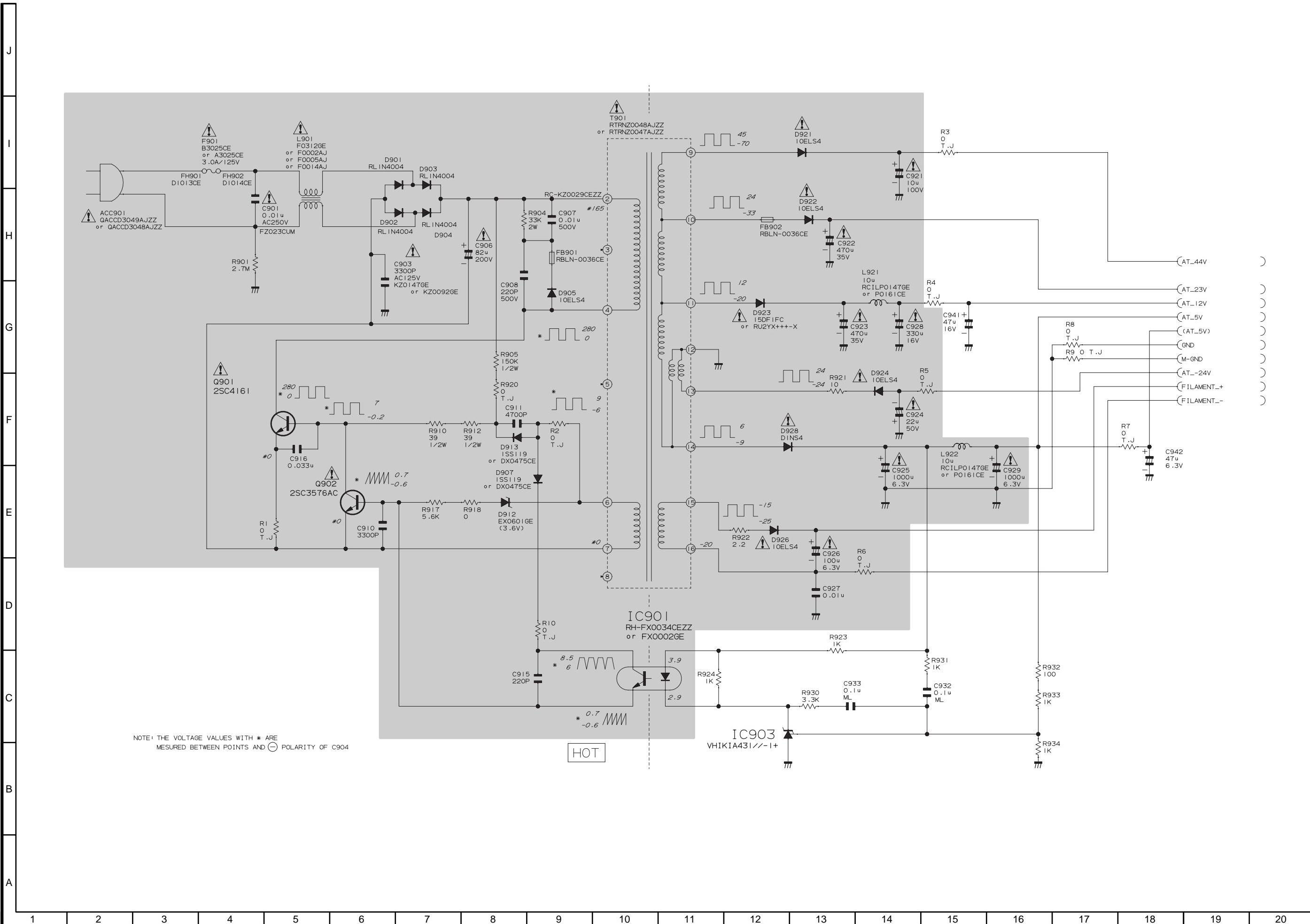
\* VOLTAGE MEASUREMENT MODE  
PB ..... Parentheses ( )  
REC ..... Without Parentheses

## **MAIN CIRCUIT(2)**



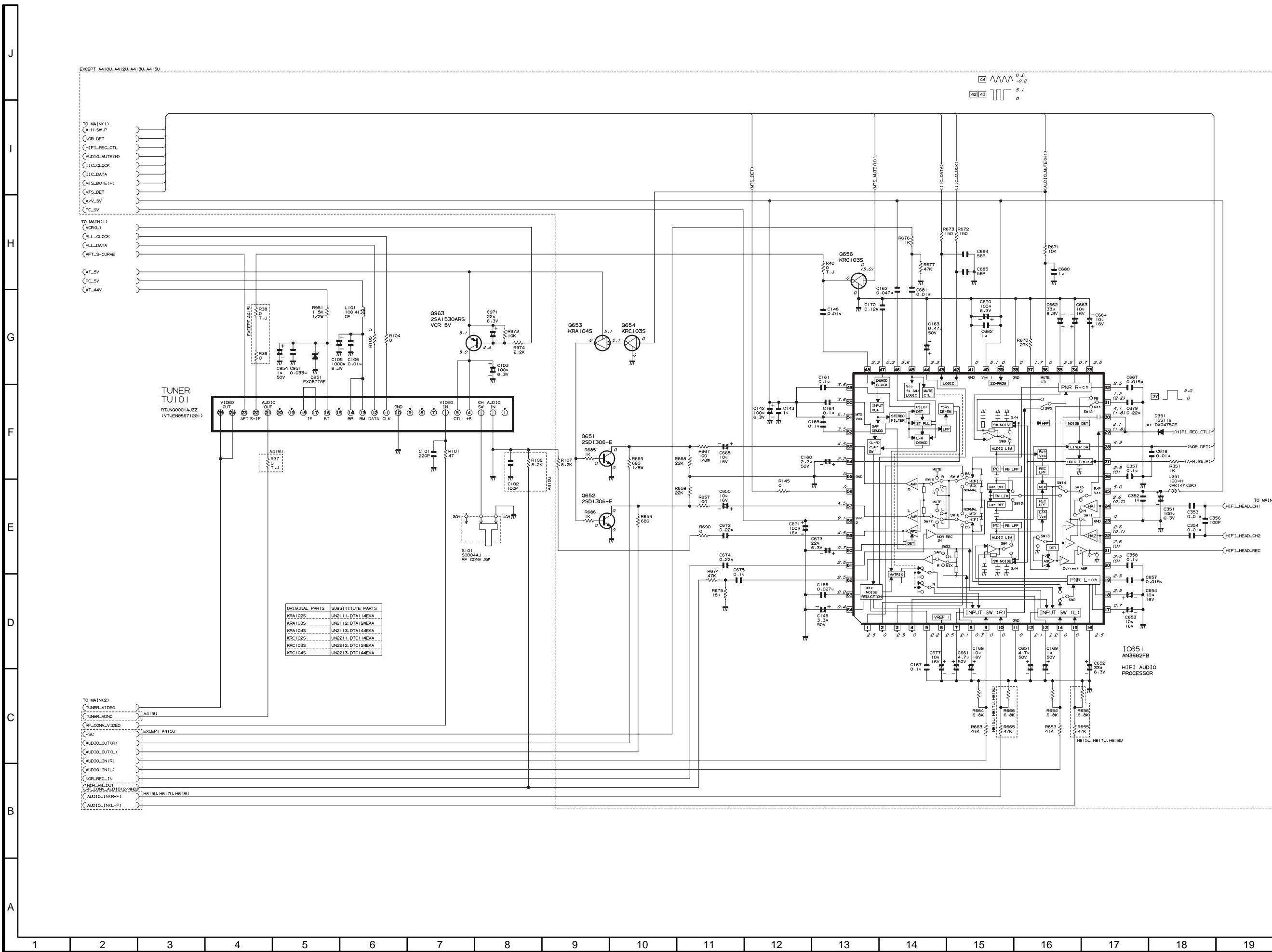
\* VOLTAGE MEASUREMENT MODE  
PB ..... Parentheses ( )  
PBC ..... Without Parentheses

MAIN CIRCUIT(3)

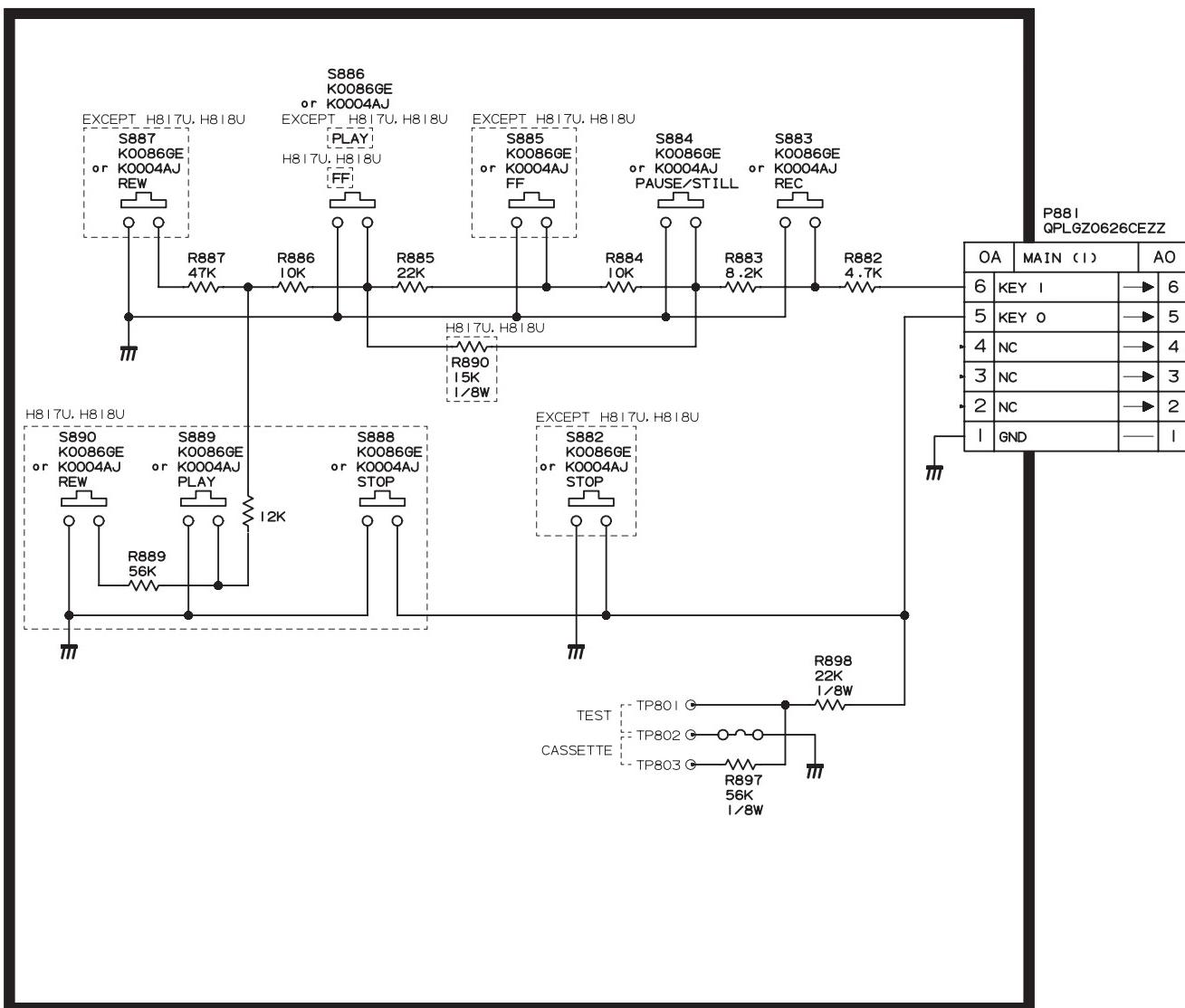


\* VOLTAGE MEASUREMENT MODE  
PB ..... Parentheses ( )  
REC ..... Without Parentheses

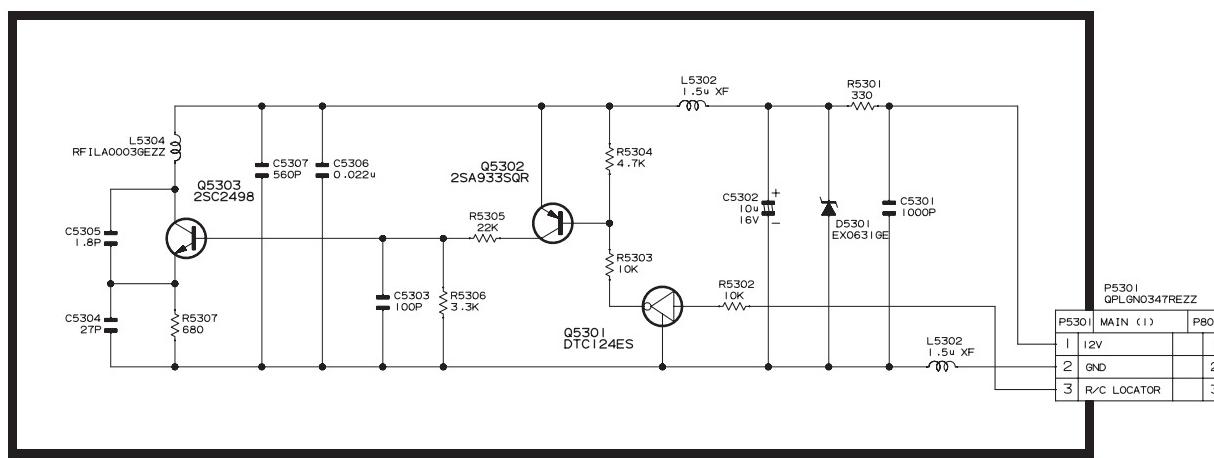
## MAIN CIRCUIT(4)



## OPERATION CIRCUIT



## LOCATOR CIRCUIT(VC-H818U)

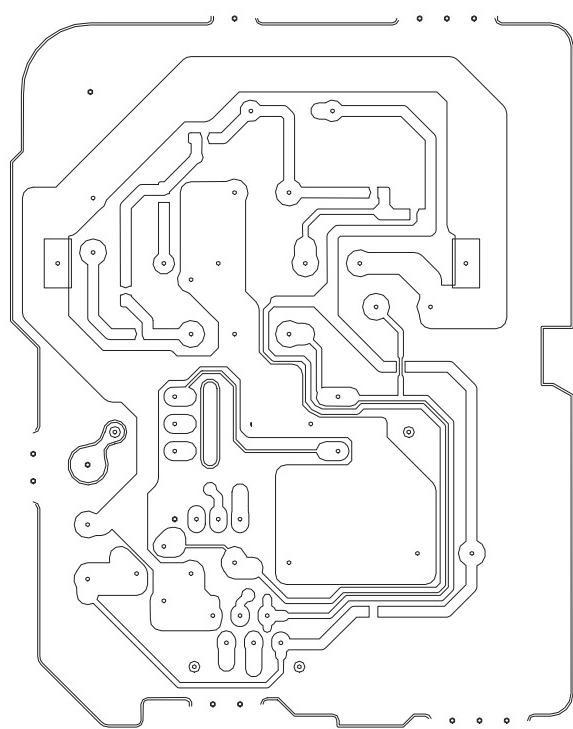
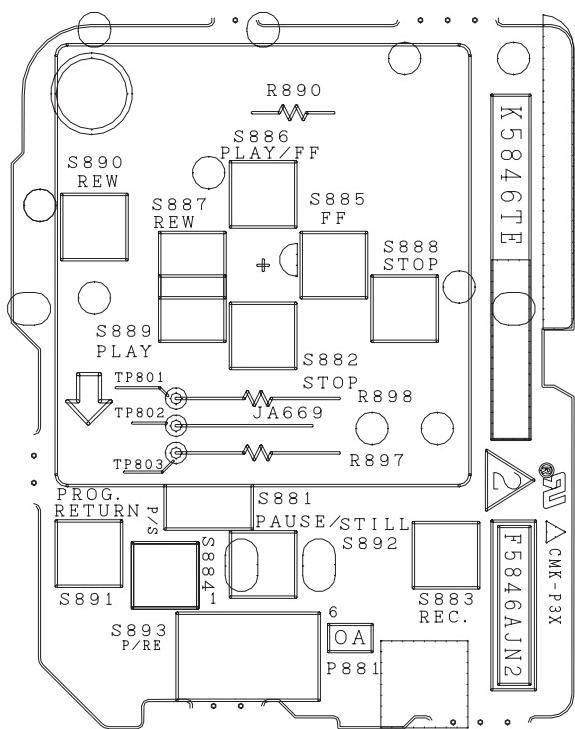


\* VOLTAGE MEASUREMENT MODE

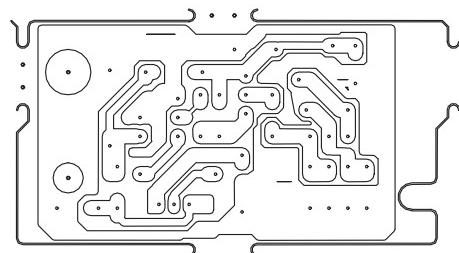
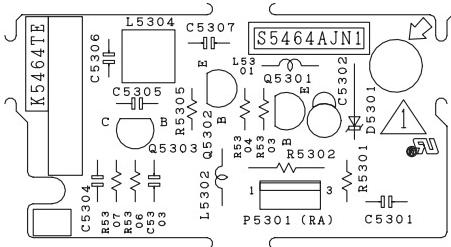
PB ..... Parentheses ( )

REC ..... Without Parentheses

## PWB FOIL PATTERN OPERATION PWB

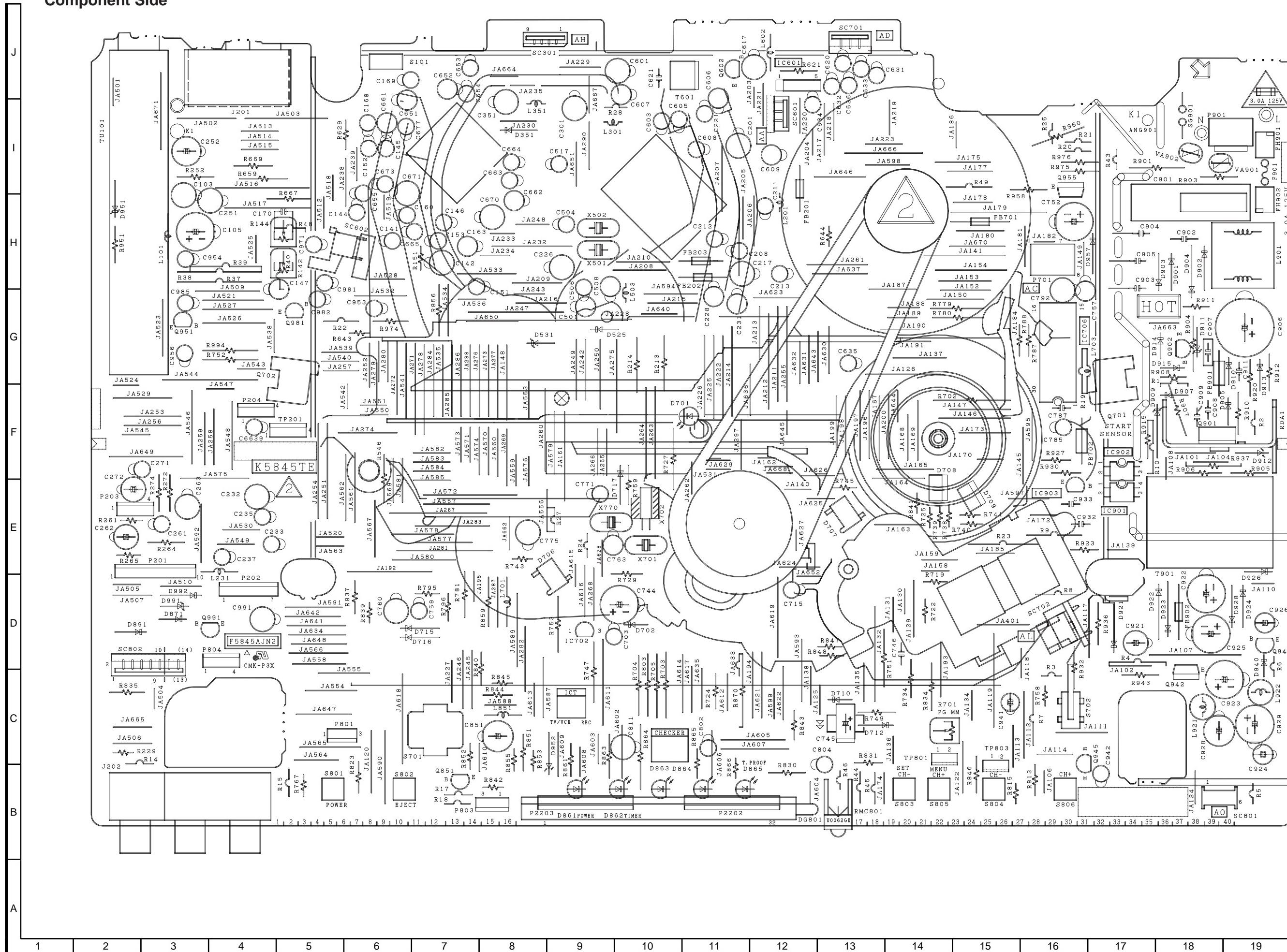


## LOCATOR PWB(VC-H818U)

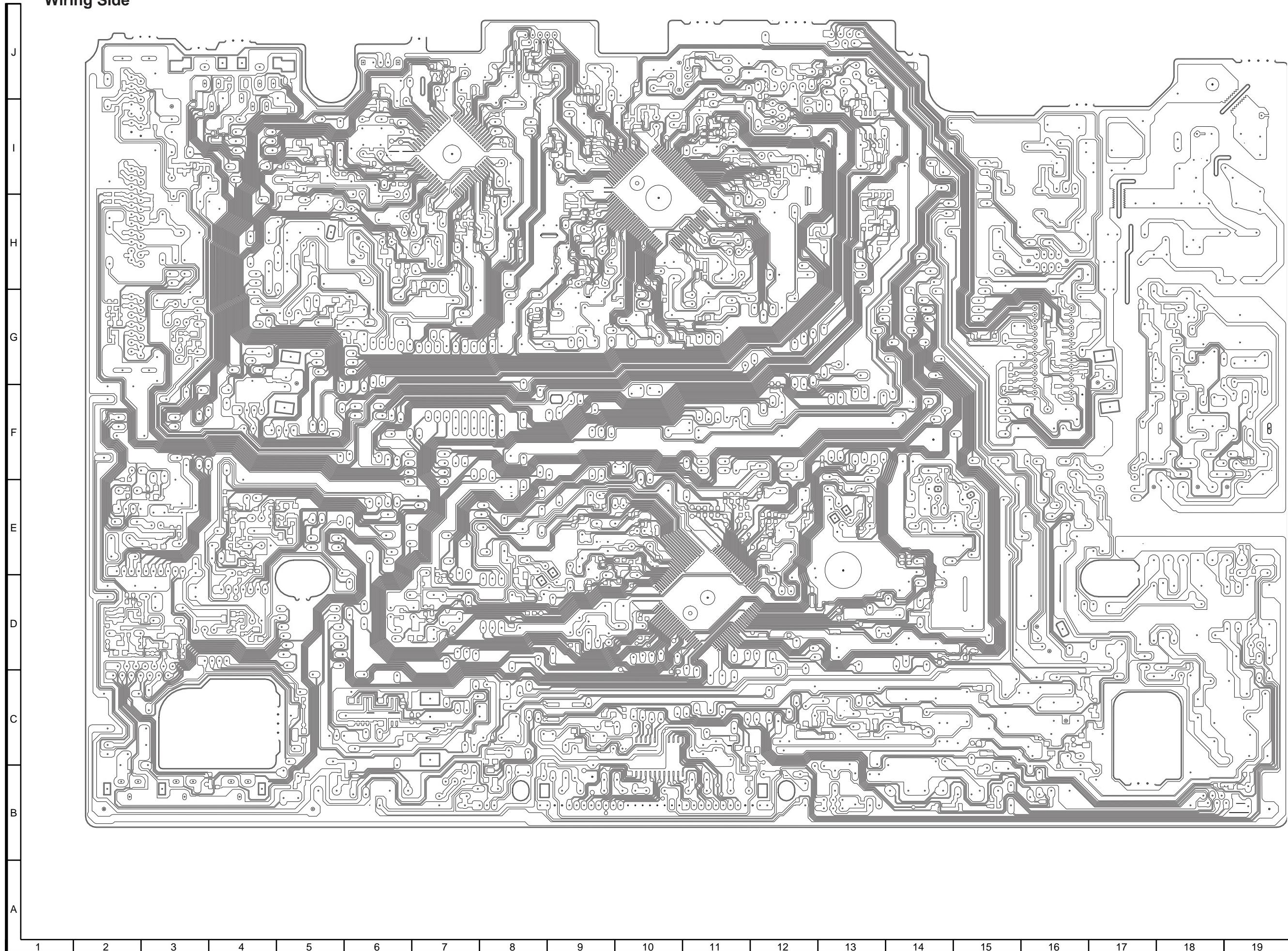


# **MAIN PWB**

## **Component Side**



**MAIN PWB**  
Wiring Side



**- M E M O -**

## 10. PARTS LIST

### PARTS REPLACEMENT

Many electrical and mechanical parts in video cassette recorder have special safety-related characteristics. These characteristics are often not evident from visual inspection nor can the protection afforded by them necessarily be obtained by using replacement components rated for higher voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in this manual; electrical components having such features are identified by "▲" and shaded areas in the Replacement Parts Lists and Schematic Diagrams. The use of a substitute replacement part which does not have the same safety characteristics as the factory recommended replacement parts shown in this service manual may create shock, fire or other hazards.

#### "HOW TO ORDER REPLACEMENT PARTS"

To have your order filled promptly and correctly, please furnish the following informations.

<b>1. MODEL NUMBER</b>	<b>2. REF. NO.</b>
<b>3. PART NO.</b>	<b>4. DESCRIPTION</b>

In USA: Contact your nearest SHARP Parts Distributor to order.  
For location of SHARP Parts Distributor,  
Please Call Toll-free;  
1-800-BE-SHARP

#### HOW TO IDENTIFY CHIP TRANSISTORS AND DIODES BY ITS MARKING

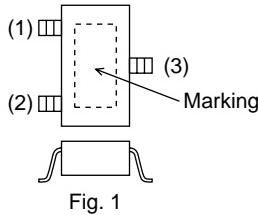


Fig. 1

Package	Marking	Parts No.
Fig. 1	TR/TS	VS2SA1530ARS1
Fig. 1	LE/LF	VS2SC3052EF-1
Fig. 1	PD	VSKRA104S//1
Fig. 1	NC	VSKRA103S//1

#### MARK★: SPARE PARTS-DELIVERY SECTION

Ref. No.	Part No.	★	Description	Code
<b>PRINTED WIRING BOARD ASSEMBLIES (NOT REPLACEMENT ITEM)</b>				
DUNTK5845TEVC	- Main Unit (VC-H815U/H817U)	—		
DUNTK5845TEVD	- Main Unit(VC-H818U)	—		
DUNTK5845TEVJ	- Main Unit(VC-A415U)	—		
DUNTK5846TEV1	- Operation Unit (VC-A415U/H815U)	—		
DUNTK5846TEV2	- Operation Unit (VC-H817U/H818U)	—		
DUNTK5464TEV1	- Locator Unit (VC-H818U)	—		

## 10. LISTE DES PIECES

### CHANGE DES PIECES

De nombreuses pièces électriques et mécaniques de magnétoscopes présentent des caractéristiques particulières de sécurité.

Ces caractéristiques ne sont pas toujours évidentes à l'inspection visuelle et la protection qu'elles assurent ne peut pas toujours être obtenue par des pièces de rechange équivalentes à un régime de tension, une puissance, etc. supérieurs. Les pièces de rechange qui présentent ces caractéristiques spéciales de sécurité, sont identifiées dans ce manuel: les pièces électriques qui présentent ces particularités, sont repérées par la marque "▲" et sont hachurées dans les listes de pièces et dans les diagrammes schématiques.

La substitution d'une pièce de rechange par une autre qui ne présente pas les mêmes caractéristiques de sécurité que la pièce recommandée par l'usine et repérée dans ce manuel de service, peut provoquer une électrocution, un incendie ou tout autre sinistre.

#### "COMMENT COMMANDER LES PIECES DE RECHANGE"

Pour que votre commande soit rapidement et correctement remplie, veuillez fournir les renseignements suivants.

<b>1. NUMERO DU MODELE</b>	<b>2. NO. DE REF</b>
<b>3. NO. DE PIECE</b>	<b>4. DESCRIPTION</b>

In CANADA: Contact Sharp Electronics of Canada Limited  
Phone (416) 890-2100

#### ★MARQUE: SECTION LIVRAISON DES PIECES DE RECHANGE

Ref. No.	Part No.	★	Description	Code
	DUNTK5845TEVC(VC-H815U/H817U)			
	DUNTK5845TEVD(VC-H818U)			
	DUNTK5845TEVJ(VC-A415U)			
	MAIN UNIT			

#### TUNERS

TU101	RTUNQ0001AJZZ	V Tuner(VC-A415U/ H815U/H817U)	BE
TU101	VTUENG56712G1	V VHF Tuner(VC-H818U)	BE

#### INTEGRATED CIRCUITS

IC201	VHiHA8317NF-1	V HA118317NF, Y/C Audio Processor	AZ
IC601	VHiBA7755A/-1	V BA7755A, REC/PB Head SW	AE
IC651	VHiAN3662FB-1	V AN3662FBP, HiFi Audio Processor(VC-H815U/H817U/ H818U)	AZ
IC701	RH-iX1567GEZZ	J IX1567GE	AZ
IC702	VHiPST600H/-1	V PST600H	AE
IC706	VHiLB1988//1	V LB1988, Loading/Drum M Driver IC	AQ
IC710	VHiKS24C02S1E	V KS24C02S, E2PROM	AG
	or		
IC710	VHiS24C02A/-1	V S24C02A, E2PROM	AK
	or		
IC710	VHiBR2402E2-1	V BR2402E2, E2PROM	AG
IC801	VHiMN12511/-1	V MN12511	AQ
IC903	VHiKIA431//1	V KIA431	AE

#### TRANSISTORS

Q251	VS2SA1530ARS1	V 2SA1530ARS1	AC
Q302	VS2SD1306-E1E	V 2SD1306-E	AD
Q306	VS2SA1530ARS1	V 2SA1530ARS1	AC

**VC-A415U/H815U**  
**VC-H817U/H818U**

Ref. No.	Part No.	★	Description	Code	Ref. No.	Part No.	★	Description	Code
Q501	VS2SC3052EF-1	V	2SC3052EF-1 (VC-H815U/H817U/H818U)	AC	△ D926	VHD10ELS4//I-1	V	10ELS4	AD
Q602	VS2SD1859TV-1	V	2SD1859TV or	AD	△ D928	VHDD1NS4//I-1	V	D1NS4	AE
Q602	VS2C3939SQR-1	V	2C3939SQR	AC	D951	RH-EX0677GEZZ	J	Zener Diode	AB
Q603	VS2SC3052EF-1	V	2SC3052EF	AC	D952	RH-EX0601GEZZ	J	Zener Diode	AA
Q651	VS2SD1306-E1E	V	2SD1306-E (VC-H815U/H817U/H818U)	AD	D991	RH-EX0631GEZZ	J	Zener Diode	AA
Q652	VS2SD1306-E1E	V	2SD1306-E (VC-H815U/H817U/H818U)	AD	D992	VHD1SS119//I-1	V	1SS119	AB
Q653	VSKRA104S//I-1	V	KRA104S (VC-H815U/H817U/H818U)	AA	D992	RH-DX0475CEZZ	V	DX0475CE	AB
Q654	VSKRC103S//I-1	V	KRC103S (VC-H815U/H817U/H818U)	AA	△ IC901	RH-FX0034CEZZ	V	PC817 or	AE
Q656	VSKRC103S//I-1	V	KRC103S (VC-H815U/H817U/H818U)	AA	△ IC901	RH-FX0002GEZZ	J	PC817	AD
Q704	VS2SA1530ARS1	V	2SA1530ARS	AC	Q701	RH-PX0233GEZZ	J	LED, Start Sensor	AD
Q705	VS2SC3052EF-1	V	2SC3052EF	AC	Q702	RH-PX0233GEZZ	J	LED, End Sensor	AD
Q706	VS2SA1530ARS1	V	2SA1530ARS1	AC	<b>PACKAGED CIRCUITS</b>				
Q710	VS2SC3052EF-1	V	2SC3052EF-1	AC	△ R901	RR-DZ0047CEZZ	V	2.7M Resistor	AD
Q711	VS2SC3052EF-1	V	2SC3052EF-1	AC	X501	RCRSB0265GEZZ	J	Crystal, CRSB0265GE or	AH
△ Q901	VS2SC4161//I-1E	V	2SC4161	AL	X501	RCRSB0204GEZZ	J	Crystal, CRSB0204GE	AG
△ Q902	VS2SC3576AC-1	V	2SC3576AC	AC	X701	RCRSB0205GEZZ	J	Crystal, CRSB0205GE	AM
Q951	VS2SA1271-Y-1	V	2SA1271-Y	AB	<b>COILS</b>				
Q952	VSKRC103S//I-1	V	KRC103S	AA	L101	VP-CF101K0000	V	Peaking, 100μH	AB
Q963	VS2SA1530ARS1	V	2SA1530ARS1	AC	L201	VP-XF820K0000	V	Peaking, 82μH	AB
Q981	VS2SA1271-Y-1	V	2SA1271-Y	AB	L301	VP-2K101K0000	V	Peaking, 100μH	AC
Q982	VSKRC103S//I-1	V	KRC103S	AA	L301	VP-MK101K0000	V	Peaking, 100μH	AB
Q991	VS2SC3203Y-1	V	2SC3203Y	AB	L351	VP-2K101K0000	V	Peaking, 100μH (VC-H815U/H817U/H818U)	AC
Q992	VS2SA1530ARS1	V	2SA1530ARS1	AC	L351	VP-MK101K0000	V	Peaking, 100μH (VC-H815U/H817U/H818U)	AB
Q993	VSKRC103S//I-1	V	KRC103S	AA	L503	VP-XF120K0000	V	Peaking, 12μH	AB
<b>DISPLAY</b>					L602	VP-DF221K0000	V	Peaking, 220μH	AB
DG801	VVK20U26108-1	V	Display	AW	△ L901	RCiLF0312GEZZ	J	Coil, CiLF0312GE	AE
<b>DIODES AND LED'S</b>					△ L901	RCiLF0014AJZZ	V	Coil, CiLF0014AJ	AG
D351	VHD1SS119//I-1	V	1SS119 or (VC-H815U/H817U/H818U)	AB	△ L901	RCiLF0002AJZZ	V	Coil, CiLF0002AJ	AK
D351	RH-DX0475CEZZ	V	DX0475CE (VC-H815U/H817U/H818U)	AB	△ L901	RCiLF0005AJZZ	V	Coil, CiLF0005AJ	AE
D701	RH-PX0270GEZZ	J	LED, Cassette LED	AC	△ L921	RCiLP0147GEZZ	J	Coil, CiLP0147GE	AC
D702	VHD1SS119//I-1	V	1SS119 or	AB	△ L921	RCiLP0161CEZZ	V	Coil, CiLP0161CE	AD
D702	RH-DX0475CEZZ	V	DX0475CE	AB	△ L922	RCiLP0147GEZZ	J	Coil, CiLP0147GE	AC
D706	RH-PX0252GEZZ	J	LED, Supply Reel Sensor	AF	△ L922	RCiLP0161CEZZ	V	Coil, CiLP0161CE	AD
D707	RH-PX0252GEZZ	J	LED, Takeup Reel Sensor	AF	<b>TRANSFORMERS</b>				
D708	RH-PX0238GEZZ	J	LED, Cam SW A	AF	T601	RTRNH0098GEZZ	J	OSC. Transformer	AE
D709	RH-PX0238GEZZ	J	LED, Cam SW B	AF	T601	RTRNH0086GEZZ	J	OSC. Transformer	AD
D712	VHD1SS119//I-1	V	1SS119 or	AB	△ T901	RTRNZ0048AJZZ	V	Transformer	AQ
D712	RH-DX0475CEZZ	V	DX0475CE	AB	△ T901	RTRNZ0047AJZZ	V	Transformer	AV
D715	VHD1SS119//I-1	V	1SS119 or	AB	<b>CAPACITORS</b>				
D715	RH-DX0475CEZZ	V	DX0475CE	AB	C101	VCKYCY1HB221K	V	220p 50V Ceramic	AA
D716	VHD1SS119//I-1	V	1SS119 or	AB	C102	VCCCCY1HH101J	V	100p 50V Ceramic (VC-A415U)	AA
△ D901	RH-DX0475CEZZ	V	DX0475CE	AB	C103	VCEA9M0JW107M	V	100 6.3V Electrolytic	AB
△ D902	VHDRL1N4004-1	V	RL1N4004	AD	C105	VCEA0A0JW108M	V	1000 6.3V Electrolytic	AC
△ D903	VHDRL1N4004-1	V	RL1N4004	AD	C106	VCKYCY1HF103Z	V	0.01 50V Ceramic	AA
△ D904	VHDRL1N4004-1	V	RL1N4004	AD	C142	VCEA9M0JW107M	V	100 6.3V Electrolytic (VC-H815U/H817U/H818U)	AB
△ D905	VHD10ELS4//I-1	V	10ELS4	AD	C143	VCKYCY0JF105Z	V	1 6.3V Ceramic (VC-H815U/H817U/H818U)	AB
△ D907	VHD1SS119//I-1	V	1SS119 or	AB	C145	VCEA9M1HW335M	V	3.3 50V Electrolytic (VC-H815U/H817U/H818U)	AB
△ D907	RH-DX0475CEZZ	V	DX0475CE	AB	C148	VCKYCY1HF103Z	V	0.01 50V Ceramic (VC-H815U/H817U/H818U)	AA
△ D912	RH-EX0601GEZZ	J	Zener Diode	AA	C160	VCEA9M1HW225M	V	2.2 50V Electrolytic (VC-H815U/H817U/H818U)	AB
△ D913	VHD1SS119//I-1	V	1SS119 or	AB	C161	VCKYCY1CB104K	V	0.1 16V Ceramic (VC-H815U/H817U/H818U)	AB
△ D913	RH-DX0475CEZZ	V	DX0475CE	AB					
△ D921	VHD10ELS4//I-1	V	10ELS4	AD					
△ D922	VHD10ELS4//I-1	V	10ELS4	AD					
△ D923	VHD15DF1FC/1E	V	15DF1FC	AD					
△ D923	VHDRLU2YX+++X	V	RU2YXLE	AD					
△ D924	VHD10ELS4//I-1	V	10ELS4	AD					

Ref. No.	Part No.	★	Description	Code	Ref. No.	Part No.	★	Description	Code
C162	VCKYCY1CB473K	V	0.047 16V Ceramic (VC-H815U/H817U/H818U)	AA	C358	VCKYCY1CB104K	V	0.1 16V Ceramic (VC-H815U/H817U/H818U)	AB
C163	VCEA9M1HW474M	V	0.47 50V Electrolytic (VC-H815U/H817U/H818U)	AB	C501	VCEA9M0JW107M	V	100 6.3V Electrolytic (VC-H815U/H817U/H818U)	AB
C164	VCKYCY1CB104K	V	0.1 16V Ceramic (VC-H815U/H817U/H818U)	AB	C502	VCKYCY0JF105Z	V	1 6.3V Ceramic (VC-H815U/H817U/H818U)	AB
C165	VCKYCY1CB104K	V	0.1 16V Ceramic (VC-H815U/H817U/H818U)	AB	C503	VCKYCY1HB472K	V	4700p 50V Ceramic (VC-H815U/H817U/H818U)	AA
C166	VCKYCY1CB273K	V	0.027 16V Ceramic (VC-H815U/H817U/H818U)	AA	C504	VCEA9M1HW225M	V	2.2 50V Electrolytic (VC-H815U/H817U/H818U)	AB
C167	VCKYCY1CB104K	V	0.1 16V Ceramic (VC-H815U/H817U/H818U)	AB	C505	VCKYCY1EB223K	V	0.022 25V Ceramic (VC-H815U/H817U/H818U)	AA
C168	VCEA9M1CW106M	V	10 16V Electrolytic (VC-H815U/H817U/H818U)	AB	C506	VCEA9M1HW474M	V	0.47 50V Electrolytic (VC-H815U/H817U/H818U)	AB
C169	VCEA9M1HW105M	V	1 50V Electrolytic (VC-H815U/H817U/H818U)	AB	C507	VCKYCY1CF104Z	V	0.1 16V Ceramic (VC-H815U/H817U/H818U)	AA
C170	VCFYFA1HA124J	V	0.12 50V M.Polypro (VC-H815U/H817U/H818U)	AC	C508	VCEA9M1HW475M	V	4.7 50V Electrolytic (VC-H815U/H817U/H818U)	AB
C201	VCEA9M0JW107M	V	100 6.3V Electrolytic (VC-H815U/H817U/H818U)	AB	C509	VCKYCY1HF103Z	V	0.01 50V Ceramic (VC-H815U/H817U/H818U)	AA
C202	VCKYCY0JF105Z	V	1 6.3V Ceramic (VC-H815U/H817U/H818U)	AB	C512	VCKYCY1HF103Z	V	0.01 50V Ceramic (VC-H815U/H817U/H818U)	AA
C203	VCCCCY1HH151J	V	150p 50V Ceramic (VC-H815U/H817U/H818U)	AA	C513	VCKYCY1HF103Z	V	0.01 50V Ceramic (VC-H815U/H817U/H818U)	AA
C204	VCKYCY1CF104Z	V	0.1 16V Ceramic (VC-H815U/H817U/H818U)	AA	C514	VCKYCY1HF103Z	V	0.01 50V Ceramic (VC-H815U/H817U/H818U)	AA
C205	VCCCCY1HH470J	V	47p 50V Ceramic (VC-H815U/H817U/H818U)	AA	C515	VCKYCY1HB331K	V	330p 50V Ceramic (VC-H815U/H817U/H818U)	AA
C206	VCKYCY1CF104Z	V	0.1 16V Ceramic (VC-H815U/H817U/H818U)	AA	C517	VCEA9M1HW335M	V	3.3 50V Electrolytic (VC-H815U/H817U/H818U)	AB
C207	VCKYCY1CF104Z	V	0.1 16V Ceramic (VC-H815U/H817U/H818U)	AA	C518	VCKYCY1HF333Z	V	0.033 50V Ceramic (VC-H815U/H817U/H818U)	AA
C208	VCEA9M1CW106M	V	10 16V Electrolytic (VC-H815U/H817U/H818U)	AB	C521	VCCCCY1HH5ROC	V	5p 50V Ceramic (VC-H815U/H817U/H818U)	AA
C209	VCKYCY1CF104Z	V	0.1 16V Ceramic (VC-H815U/H817U/H818U)	AA	C523	VCKYCY1HF103Z	V	0.01 50V Ceramic (VC-H815U/H817U/H818U)	AA
C210	VCKYCY1CF104Z	V	0.1 16V Ceramic (VC-H815U/H817U/H818U)	AA	C524	VCKYCY1HF103Z	V	0.01 50V Ceramic (VC-H815U/H817U/H818U)	AA
C211	VCEA9M1HW335M	V	3.3 50V Electrolytic (VC-H815U/H817U/H818U)	AB	C601	VCEA9M0JW107M	V	100 6.3V Electrolytic (VC-A415U)	AB
C212	VCEA9M1CW106M	V	10 16V Electrolytic (VC-H815U/H817U/H818U)	AB	C602	VCKYCY1EB103K	V	0.01 25V Ceramic (VC-A415U)	AA
C213	VCEA9M1HW225M	V	2.2 50V Electrolytic (VC-H815U/H817U/H818U)	AB	C603	VCEA9M1CW106M	V	10 16V Electrolytic (VC-A415U)	AB
C214	VCKYCY0JF105Z	V	1 6.3V Ceramic (VC-H815U/H817U/H818U)	AB	C604	VCKYCY1HB821K	V	820p 50V Ceramic (VC-A415U)	AA
C215	VCKYCY0JF105Z	V	1 6.3V Ceramic (VC-H815U/H817U/H818U)	AB	C605	VCEA9M1CW106M	V	10 16V Electrolytic (VC-A415U)	AB
C216	VCKYCY0JF105Z	V	1 6.3V Ceramic (VC-H815U/H817U/H818U)	AB	C606	VCEA9M1HW475M	V	4.7 50V Electrolytic (VC-A415U)	AB
C217	VCEA9M0JW107M	V	100 6.3V Electrolytic (VC-A415U)	AB	C607	VCEA9M1HW475M	V	4.7 50V Electrolytic (VC-A415U)	AB
C218	VCKYCY0JF105Z	V	1 6.3V Ceramic (VC-A415U)	AB	C608	VCEA9M0JW226M	V	22 6.3V Electrolytic (VC-A415U)	AB
C219	VCKYCY1CF104Z	V	0.1 16V Ceramic (VC-A415U)	AA	C609	VCEA9M1HW475M	V	4.7 50V Electrolytic (VC-A415U)	AB
C220	VCKYCY1CF104Z	V	0.1 16V Ceramic (VC-A415U)	AA	C610	VCKYCY1CF104Z	V	0.1 16V Ceramic (VC-A415U)	AA
C221	VCEA9M1CW106M	V	10 16V Electrolytic (VC-A415U)	AB	C611	VCKYCY1CF104Z	V	0.1 16V Ceramic (VC-A415U)	AA
C223	VCKYCY1CF104Z	V	0.1 16V Ceramic (VC-A415U)	AA	C612	VCKYCY1CF104Z	V	0.1 16V Ceramic (VC-A415U)	AA
C226	VCEA9M0JW107M	V	100 6.3V Electrolytic (VC-A415U)	AB	C613	VCKYCY1EB183K	V	0.018 25V Ceramic (VC-A415U)	AA
C227	VCKYCY0JF105Z	V	1 6.3V Ceramic (VC-A415U)	AB	C614	VCKYCY1HB222K	V	2200p 50V Ceramic (VC-A415U)	AA
C228	VCEA9M0JW107M	V	100 6.3V Electrolytic (VC-A415U)	AB	C617	VCEA9M1CW476M	V	47 16V Electrolytic (VC-A415U)	AB
C251	VCEA9M1CW476M	V	47 16V Electrolytic (VC-A415U)	AB	C618	VCKYCY1EB103K	V	0.01 25V Ceramic (VC-A415U)	AA
C252	VCEA0A0JW337M	V	330 6.3V Electrolytic (VC-A415U)	AC	C619	VCKYCY1EB103K	V	0.01 25V Ceramic (VC-A415U)	AA
C254	VCCCCY1HH330J	V	33p 50V Ceramic (VC-A415U)	AA	C620	VCEA9M1CW106M	V	10 16V Electrolytic (VC-A415U)	AB
C256	VCKYCY1CF104Z	V	0.1 16V Ceramic (VC-A415U)	AA	C621	VCQPYA2AA562J	V	5600p 100V Mylar (VC-A415U)	AC
C301	VCEA9M0JW107M	V	100 6.3V Electrolytic (VC-A415U)	AB	C622	VCKYCY1HB222K	V	2200p 50V Ceramic (VC-A415U)	AA
C302	VCKYCY0JF105Z	V	1 6.3V Ceramic (VC-A415U)	AB	C630	VCKYCY0JF105Z	V	1 6.3V Ceramic (VC-A415U)	AB
C303	VCKYCY1HB102K	V	1000p 50V Ceramic (VC-A415U)	AA	C651	VCEA9M1HW475M	V	4.7 50V Electrolytic (VC-H815U/H817U/H818U)	AB
C304	VCKYCY1HB102K	V	1000p 50V Ceramic (VC-A415U)	AA	C652	VCEA9M0JW336M	V	33 6.3V Electrolytic (VC-H815U/H817U/H818U)	AB
C305	VCKYCY1HB102K	V	1000p 50V Ceramic (VC-A415U)	AA	C653	VCEA9M1CW106M	V	10 16V Electrolytic (VC-H815U/H817U/H818U)	AB
C306	VCKYCY1HB102K	V	1000p 50V Ceramic (VC-A415U)	AA	C654	VCEA9M1CW106M	V	10 16V Electrolytic (VC-H815U/H817U/H818U)	AB
C307	VCKYCY1HB102K	V	1000p 50V Ceramic (VC-A415U)	AA	C655	VCEA9M1CW106M	V	10 16V Electrolytic (VC-H815U/H817U/H818U)	AB
C308	VCKYCY1HB102K	V	1000p 50V Ceramic (VC-A415U)	AA	C657	VCKYCY1EB153K	V	0.015 25V Ceramic (VC-H815U/H817U/H818U)	AA
C309	VCKYCY1HB102K	V	1000p 50V Ceramic (VC-A415U)	AA	C661	VCEA9M1HW475M	V	4.7 50V Electrolytic (VC-H815U/H817U/H818U)	AB
C310	VCKYCY1HB102K	V	1000p 50V Ceramic (VC-A415U)	AA	C662	VCEA9M0JW336M	V	33 6.3V Electrolytic (VC-H815U/H817U/H818U)	AB
C311	VCKYCY1HF103Z	V	0.01 50V Ceramic (VC-H815U/H817U/H818U)	AA	C663	VCEA9M1CW106M	V	10 16V Electrolytic (VC-H815U/H817U/H818U)	AB
C312	VCKYCY1HF103Z	V	0.01 50V Ceramic (VC-H815U/H817U/H818U)	AA	C664	VCEA9M1CW106M	V	10 16V Electrolytic (VC-H815U/H817U/H818U)	AB
C319	VCCCCY1HH100D	V	10p 50V Ceramic (VC-H815U/H817U/H818U)	AA	C665	VCEA9M1CW106M	V	10 16V Electrolytic (VC-H815U/H817U/H818U)	AB
C320	VCCCCY1HH100D	V	10p 50V Ceramic (VC-H815U/H817U/H818U)	AA	C667	VCKYCY1EB153K	V	0.015 25V Ceramic (VC-H815U/H817U/H818U)	AA
C327	VCKYCY1HB102K	V	1000p 50V Ceramic (VC-H815U/H817U/H818U)	AA	C670	VCEA9M0JW107M	V	100 6.3V Electrolytic (VC-H815U/H817U/H818U)	AB
C329	VCKYCY1HF103Z	V	0.01 50V Ceramic (VC-H815U/H817U/H818U)	AA	C671	VCEA9M1CW107M	V	100 16V Electrolytic (VC-H815U/H817U/H818U)	AB
C351	VCEA9M0JW107M	V	100 6.3V Electrolytic (VC-H815U/H817U/H818U)	AB	C672	VCKYCY1CF224Z	V	0.22 16V Ceramic (VC-H815U/H817U/H818U)	AA
C352	VCKYCY0JF105Z	V	1 6.3V Ceramic (VC-H815U/H817U/H818U)	AB					
C353	VCKYCY1HF103Z	V	0.01 50V Ceramic (VC-H815U/H817U/H818U)	AA					
C354	VCKYCY1HF103Z	V	0.01 50V Ceramic (VC-H815U/H817U/H818U)	AA					
C356	VCCCCY1HH101J	V	100p 50V Ceramic (VC-H815U/H817U/H818U)	AA					
C357	VCKYCY1CB104K	V	0.1 16V Ceramic (VC-H815U/H817U/H818U)	AB					

**VC-A415U/H815U**  
**VC-H817U/H818U**

Ref. No.	Part No.	★	Description	Code
C673	VCEA9M0JW226M	V 22	6.3V Electrolytic (VC-H815U/H817U/H818U)	AB
C674	VCKYCY1CF224Z	V 0.22	16V Ceramic (VC-H815U/H817U/H818U)	AA
C675	VCKYCY1CF104Z	V 0.1	16V Ceramic (VC-H815U/H817U/H818U)	AA
C677	VCEA9M1CW106M	V 10	16V Electrolytic (VC-H815U/H817U/H818U)	AB
C678	VCKYCY1HF103Z	V 0.01	50V Ceramic (VC-H815U/H817U/H818U)	AA
C679	VCKYCY1CF224Z	V 0.22	16V Ceramic (VC-H815U/H817U/H818U)	AA
C680	VCKYCY0JF105Z	V 1	6.3V Ceramic (VC-H815U/H817U/H818U)	AB
C681	VCKYCY1HF103Z	V 0.01	50V Ceramic (VC-H815U/H817U/H818U)	AA
C682	VCKYCY0JF105Z	V 1	6.3V Ceramic (VC-H815U/H817U/H818U)	AB
C684	VCCCCY1HH560J	V 56p	50V Ceramic (VC-H815U/H817U/H818U)	AA
C685	VCCCCY1HH560J	V 56p	50V Ceramic (VC-H815U/H817U/H818U)	AA
C701	VCKYCY1HF103Z	V 0.01	50V Ceramic (VC-H815U/H817U/H818U)	AA
C702	VCKYCY1HF103Z	V 0.01	50V Ceramic (VC-H815U/H817U/H818U)	AA
C703	VCEA9M1HW105M	V 1	50V Electrolytic (VC-H815U/H817U/H818U)	AB
C704	VCKYCY0JF105Z	V 1	6.3V Ceramic (VC-H815U/H817U/H818U)	AB
C705	VCKYCY1HF103Z	V 0.01	50V Ceramic (VC-H815U/H817U/H818U)	AA
C706	VCKYCY1HF103Z	V 0.01	50V Ceramic (VC-H815U/H817U/H818U)	AA
C707	VCCCCY1HH120J	V 12p	50V Ceramic (VC-H815U/H817U/H818U)	AA
C708	VCCCCY1HH150J	V 15p	50V Ceramic (VC-H815U/H817U/H818U)	AA
C711	VCKYCY1HB102K	V 1000p	50V Ceramic (VC-H815U/H817U/H818U)	AA
C712	VCKYCY1HB102K	V 1000p	50V Ceramic (VC-H815U/H817U/H818U)	AA
C713	VCKYCY1HB102K	V 1000p	50V Ceramic (VC-H815U/H817U/H818U)	AA
C714	VCKYCY1CF104Z	V 0.1	16V Ceramic (VC-H815U/H817U/H818U)	AA
C715	VCEA9M0JW226M	V 22	6.3V Electrolytic (VC-H815U/H817U/H818U)	AB
C717	VCKYCY1HB221K	V 220p	50V Ceramic (VC-H815U/H817U/H818U)	AA
C718	VCKYCY1CF104Z	V 0.1	16V Ceramic (VC-H815U/H817U/H818U)	AA
C719	VCKYCY1EB103K	V 0.01	25V Ceramic (VC-H815U/H817U/H818U)	AA
C722	VCKYCY1HF103Z	V 0.01	50V Ceramic (VC-H815U/H817U/H818U)	AA
C723	VCKYCY1HF103Z	V 0.01	50V Ceramic (VC-H815U/H817U/H818U)	AA
C724	VCKYCY1HF103Z	V 0.01	50V Ceramic (VC-H815U/H817U/H818U)	AA
C726	VCKYCY1HF103Z	V 0.01	50V Ceramic (VC-H815U/H817U/H818U)	AA
C727	VCKYCY1HF103Z	V 0.01	50V Ceramic (VC-H815U/H817U/H818U)	AA
C729	VCKYCY1HF103Z	V 0.01	50V Ceramic (VC-H815U/H817U/H818U)	AA
C730	VCKYCY1HF103Z	V 0.01	50V Ceramic (VC-H815U/H817U/H818U)	AA
C736	VCKYCY1HF103Z	V 0.01	50V Ceramic (VC-H815U/H817U/H818U)	AA
C737	VCKYCY1HF103Z	V 0.01	50V Ceramic (VC-H815U/H817U/H818U)	AA
C738	VCKYCY1HB102K	V 1000p	50V Ceramic (VC-H815U/H817U/H818U)	AA
C739	VCKYCY1HB102K	V 1000p	50V Ceramic (VC-H815U/H817U/H818U)	AA
C743	VCKYCY0JF105Z	V 1	6.3V Ceramic (VC-H815U/H817U/H818U)	AB
C744	VCEA2A0JW477M	V 470	6.3V Electrolytic (VC-H815U/H817U/H818U)	AB
C747	VCKYCY1HF103Z	V 0.01	50V Ceramic (VC-H815U/H817U/H818U)	AA
C748	VCKYCY1HF103Z	V 0.01	50V Ceramic (VC-H815U/H817U/H818U)	AA
C750	VCKYCY1HF103Z	V 0.01	50V Ceramic (VC-H815U/H817U/H818U)	AA
C751	VCKYCY1HF103Z	V 0.01	50V Ceramic (VC-H815U/H817U/H818U)	AA
C752	VCEA2A1VW107M	V 100	35V Electrolytic (VC-H815U/H817U/H818U)	AC
C754	VCKYCY1EB103K	V 0.01	25V Ceramic (VC-H815U/H817U/H818U)	AA
C755	VCKYCY1HF473Z	V 0.047	50V Ceramic (VC-H815U/H817U/H818U)	AA
C756	VCKYCY1HF473Z	V 0.047	50V Ceramic (VC-H815U/H817U/H818U)	AA
C759	VCEA9M0JW226M	V 22	6.3V Electrolytic (VC-H815U/H817U/H818U)	AB
C760	VCEA9M0JW107M	V 100	6.3V Electrolytic (VC-H815U/H817U/H818U)	AB
C763	VCEA9M0JW476M	V 47	6.3V Electrolytic (VC-H815U/H817U/H818U)	AB
C764	VCKYCY1HF103Z	V 0.01	50V Ceramic (VC-H815U/H817U/H818U)	AA
C770	VCCCCY1HH101J	V 100p	50V Ceramic (VC-H815U/H817U/H818U)	AA
C771	VCE9EM1HW105M	V 1	50V Electrolytic (VC-H815U/H817U/H818U)	AB
C774	VCKYCY1CF104Z	V 0.1	16V Ceramic (VC-H815U/H817U/H818U)	AA
C775	VCEA9M0JW107M	V 100	6.3V Electrolytic (VC-H815U/H817U/H818U)	AB
C776	VCKYCY0JF105Z	V 1	6.3V Ceramic (VC-H815U/H817U/H818U)	AB
C783	VCKYCY0JF105Z	V 1	6.3V Ceramic (VC-H815U/H817U/H818U)	AB
C784	VCKYCY1HB102K	V 1000p	50V Ceramic (VC-H815U/H817U/H818U)	AA
C785	VCEA9M0JW476M	V 47	6.3V Electrolytic (VC-H815U/H817U/H818U)	AB
C786	VCKYCY1CF34Z	V 0.33	16V Ceramic (VC-H815U/H817U/H818U)	AA
C787	VCFYFA1HA474J	V 0.47	50V M.Polypro (VC-H815U/H817U/H818U)	AC

Ref. No.	Part No.	★	Description	Code
C789	VCKYCY1EB103K	V 0.01	25V Ceramic (VC-H815U/H817U/H818U)	AA
C790	VCKYCY1HB392K	V 3900p	50V Ceramic (VC-H815U/H817U/H818U)	AA
C791	VCKYCY1HB392K	V 3900p	50V Ceramic (VC-H815U/H817U/H818U)	AA
C792	VCEA9M1CW476M	V 47	16V Electrolytic (VC-H815U/H817U/H818U)	AB
C794	VCKYCY1EB223K	V 0.022	25V Ceramic (VC-H815U/H817U/H818U)	AA
C795	VCKYCY1EB223K	V 0.022	25V Ceramic (VC-H815U/H817U/H818U)	AA
C797	VCKYCY1CF104Z	V 0.1	16V Ceramic (VC-H815U/H817U/H818U)	AA
C798	VCKYCY1EB223K	V 0.022	25V Ceramic (VC-H815U/H817U/H818U)	AA
C801	VCKYCY1HF103Z	V 0.01	50V Ceramic (VC-H815U/H817U/H818U)	AA
C802	VCEA9M0JW476M	V 47	6.3V Electrolytic (VC-H815U/H817U/H818U)	AB
C803	VCKYCY1HF103Z	V 0.01	50V Ceramic (VC-H815U/H817U/H818U)	AA
C804	VCEA9M0JW476M	V 47	6.3V Electrolytic (VC-H815U/H817U/H818U)	AB
C805	VCKYCY1HF103Z	V 0.01	50V Ceramic (VC-H815U/H817U/H818U)	AA
△ C901	RC-FZ023CUMZZ	V 0.01	AC250V M.Polypro (VC-H815U/H817U/H818U)	AF
△ C903	RC-KZ0092GEZZ	J 3300p	AC125V Ceramic (VC-H815U/H817U/H818U)	AC
△ C903	RC-KZ0147GEZZ	J 3300p	AC125V Ceramic (VC-H815U/H817U/H818U)	AC
△ C906	RC-EZ0238CEZZ	V 82	200V Electrolytic (VC-H815U/H817U/H818U)	AE
△ C907	RC-KZ0029CEZZ	V 0.01	500V Ceramic (VC-H815U/H817U/H818U)	AC
△ C908	VCKYPA2HB221K	V 220p	500V Ceramic (VC-H815U/H817U/H818U)	AA
△ C910	VCKYCY1HB332K	V 3300p	50V Ceramic (VC-H815U/H817U/H818U)	AA
△ C911	VCQYTA1HM472K	V 4700p	50V Mylar (VC-H815U/H817U/H818U)	AB
△ C915	VCKYCY1HB221K	V 220p	50V Ceramic (VC-H815U/H817U/H818U)	AA
△ C916	VCKYCY1HF333Z	V 0.033	50V Ceramic (VC-H815U/H817U/H818U)	AA
△ C921	VCEA0A2HW106M	V 10	100V Electrolytic (VC-H815U/H817U/H818U)	AC
△ C922	VCEA0A1VW477M	V 470	35V Electrolytic (VC-H815U/H817U/H818U)	AB
△ C923	VCEA0A1VW477M	V 470	35V Electrolytic (VC-H815U/H817U/H818U)	AB
△ C924	VCEA0A1HW226M	V 22	50V Electrolytic (VC-H815U/H817U/H818U)	AB
△ C925	VCEA0A0JW108M	V 1000	6.3V Electrolytic (VC-H815U/H817U/H818U)	AC
△ C926	VCEA0A0JW107M	V 100	6.3V Electrolytic (VC-H815U/H817U/H818U)	AB
△ C927	VCKYCY1HF103Z	V 0.01	50V Ceramic (VC-H815U/H817U/H818U)	AA
△ C928	VCEA0A1CW337M	V 330	16V Electrolytic (VC-H815U/H817U/H818U)	AC
△ C929	VCEA0A0JW108M	V 1000	6.3V Electrolytic (VC-H815U/H817U/H818U)	AC
C932	VCQYTA1HM104J	V 0.1	50V Mylar (VC-H815U/H817U/H818U)	AA
C933	VCQYTA1HM104J	V 0.1	50V Mylar (VC-H815U/H817U/H818U)	AA
C941	VCEA9A1CW476M	V 47	16V Electrolytic (VC-H815U/H817U/H818U)	AB
C942	VCEA9M0JW476M	V 47	6.3V Electrolytic (VC-H815U/H817U/H818U)	AB
C951	VCKYCY1HF333Z	V 0.033	50V Ceramic (VC-H815U/H817U/H818U)	AA
C953	VCEA9M1CW106M	V 10	16V Electrolytic (VC-H815U/H817U/H818U)	AB
C954	VCEA9M1HW105M	V 1	50V Electrolytic (VC-H815U/H817U/H818U)	AB
C971	VCEA9M0JW226M	V 22	6.3V Electrolytic (VC-H815U/H817U/H818U)	AB
C981	VCEA9M0JW476M	V 47	6.3V Electrolytic (VC-H815U/H817U/H818U)	AB
C985	VCEA9M0JW476M	V 47	6.3V Electrolytic (VC-H815U/H817U/H818U)	AB
C991	VCEA9M1CW476M	V 47	16V Electrolytic (VC-H815U/H817U/H818U)	AB
R628	VRS-CY1JF000J	V 0	1/16W Metal Oxide (VC-A415U)	AA
<b>RESISTORS</b>				
RJ101	VRS-CY1JF000J	V 0	1/16W Metal Oxide (VC-H815U/H817U/H818U)	AA
RJ102	VRS-CY1JF000J	V 0	1/16W Metal Oxide (VC-H815U/H817U/H818U)	AA
RJ103	VRS-CY1JF000J	V 0	1/16W Metal Oxide (VC-A415U)	AA
RJ301	VRS-CY1JF000J	V 0	1/16W Metal Oxide (VC-H815U/H817U/H818U)	AA
RJ302	VRS-CY1JF000J	V 0	1/16W Metal Oxide (VC-H815U/H817U/H818U)	AA
RJ303	VRS-CY1JF000J	V 0	1/16W Metal Oxide (VC-H815U/H817U/H818U)	AA
RJ304	VRS-CY1JF000J	V 0	1/16W Metal Oxide (VC-H815U/H817U/H818U)	AA
RJ305	VRS-CY1JF000J	V 0	1/16W Metal Oxide (VC-H815U/H817U/H818U)	AA
RJ501	VRS-CY1JF000J	V 0	1/16W Metal Oxide (VC-H815U/H817U/H818U)	AA
RJ502	VRS-CY1JF000J	V 0	1/16W Metal Oxide (VC-H815U/H817U/H818U)	AA
R16	VRS-CY1JF000J	V 0	1/16W Metal Oxide (VC-H815U/H817U/H818U)	AA
R36	VRS-CY1JF000J	V 0	1/16W Metal Oxide (VC-H815U/H817U/H818U)	AA
R101	VRS-CY1JF470J	V 47	1/16W Metal Oxide (VC-H815U/H817U/H818U)	AA
R103	VRS-CY1JF473J	V 47k	1/16W Metal Oxide (VC-H815U/H817U/H818U)	AA
R104	VRS-CY1JF000J	V 0	1/16W Metal Oxide (VC-H815U/H817U/H818U)	AA
R105	VRS-CY1JF000J	V 0	1/16W Metal Oxide (VC-H815U/H817U/H818U)	AA
R107	VRS-CY1JF822J	V 8.2k	1/16W Metal Oxide (VC-H815U/H817U/H818U)	AA
R108	VRS-CY1JF822J	V 8.2k	1/16W Metal Oxide (VC-A415U)	AA
R111	VRS-CY1JF153J	V 15k	1/16W Metal Oxide (VC-A415U)	AA
R112	VRS-CY1JF153J	V 15k	1/16W Metal Oxide (VC-H815U/H817U/H818U)	AA

Ref. No.	Part No.	★	Description	Code	Ref. No.	Part No.	★	Description	Code
R145	VRS-CY1JF000J	V 0	1/16W Metal Oxide (VC-H815U/H817U/H818U)	AA	R654	VRS-CY1JF682J	V 6.8k	1/16W Metal Oxide (VC-H815U/H817U/H818U)	AA
R201	VRS-CY1JF682J	V 6.8k	1/16W Metal Oxide	AA	R655	VRS-CY1JF473J	V 47k	1/16W Metal Oxide (VC-H815U/H817U/H818U)	AA
R202	VRS-CY1JF182J	V 1.8k	1/16W Metal Oxide	AA	R656	VRS-CY1JF682J	V 6.8k	1/16W Metal Oxide (VC-H815U/H817U/H818U)	AA
R203	VRS-CY1JF682J	V 6.8k	1/16W Metal Oxide	AA	R657	VRS-CY1JF101J	V 100	1/16W Metal Oxide (VC-H815U/H817U/H818U)	AA
R207	VRS-CY1JF101J	V 100	1/16W Metal Oxide	AA	R658	VRS-CY1JF223J	V 22k	1/16W Metal Oxide (VC-H815U/H817U/H818U)	AA
R211	VRS-CY1JF153J	V 15k	1/16W Metal Oxide	AA	R659	VRD-RA2BE681J	V 680	1/8W Carbon (VC-H815U/H817U/H818U)	AA
R212	VRS-CY1JF153J	V 15k	1/16W Metal Oxide	AA	R663	VRS-CY1JF473J	V 47k	1/16W Metal Oxide (VC-H815U/H817U/H818U)	AA
R225	VRS-CY1JF750J	V 75	1/16W Metal Oxide	AA	R664	VRS-CY1JF682J	V 6.8k	1/16W Metal Oxide (VC-H815U/H817U/H818U)	AA
R226	VRS-CY1JF101J	V 100	1/16W Metal Oxide	AA	R665	VRS-CY1JF473J	V 47k	1/16W Metal Oxide (VC-H815U/H817U/H818U)	AA
R227	VRS-CY1JF750J	V 75	1/16W Metal Oxide	AA	R666	VRS-CY1JF682J	V 6.8k	1/16W Metal Oxide (VC-H815U/H817U/H818U)	AA
R228	VRS-CY1JF750J	V 75	1/16W Metal Oxide	AA	R667	VRD-RA2BE101J	V 100	1/8W Carbon (VC-H815U/H817U/H818U)	AB
R229	VRD-RA2BE101J	V 100	1/8W Carbon	AB	R668	VRS-CY1JF223J	V 22k	1/16W Metal Oxide (VC-H815U/H817U/H818U)	AA
R252	VRD-RA2EE331J	V 330	1/4W Carbon	AA	R669	VRD-RA2BE681J	V 680	1/8W Carbon (VC-H815U/H817U/H818U)	AA
R253	VRS-CY1JF101J	V 100	1/16W Metal Oxide	AA	R670	VRS-CY1JF273J	V 27k	1/16W Metal Oxide (VC-H815U/H817U/H818U)	AA
R254	VRS-CY1JF101J	V 100	1/16W Metal Oxide	AA	R671	VRS-CY1JF103J	V 10k	1/16W Metal Oxide (VC-H815U/H817U/H818U)	AA
R256	VRS-CY1JF183J	V 18k	1/16W Metal Oxide	AA	R672	VRS-CY1JF151J	V 150	1/16W Metal Oxide (VC-H815U/H817U/H818U)	AA
R301	VRS-CY1JF473J	V 47k	1/16W Metal Oxide	AA	R673	VRS-CY1JF151J	V 150	1/16W Metal Oxide (VC-H815U/H817U/H818U)	AA
R313	VRS-CY1JF332J	V 3.3k	1/16W Metal Oxide	AA	R674	VRS-CY1JF473J	V 47k	1/16W Metal Oxide (VC-H815U/H817U/H818U)	AA
R315	VRS-CY1JF152J	V 1.5k	1/16W Metal Oxide	AA	R675	VRS-CY1JF183J	V 18k	1/16W Metal Oxide (VC-H815U/H817U/H818U)	AA
R330	VRS-CY1JF222J	V 2.2k	1/16W Metal Oxide	AA	R676	VRS-CY1JF102J	V 1k	1/16W Metal Oxide (VC-H815U/H817U/H818U)	AA
R331	VRS-CY1JF102J	V 1k	1/16W Metal Oxide	AA	R677	VRS-CY1JF473J	V 47k	1/16W Metal Oxide (VC-H815U/H817U/H818U)	AA
R351	VRS-CY1JF102J	V 1k	1/16W Metal Oxide (VC-H815U/H817U/H818U)	AA	R685	VRS-CY1JF102J	V 1k	1/16W Metal Oxide (VC-H815U/H817U/H818U)	AA
R501	VRS-CY1JF681J	V 680	1/16W Metal Oxide	AA	R686	VRS-CY1JF102J	V 1k	1/16W Metal Oxide (VC-H815U/H817U/H818U)	AA
R502	VRS-CY1JF273J	V 27k	1/16W Metal Oxide	AA	R690	VRS-CY1JF000J	V 0	1/16W Metal Oxide (VC-H815U/H817U/H818U)	AA
R505	VRS-CY1JF000J	V 0	1/16W Metal Oxide	AA	R703	VRD-RA2BE102J	V 1k	1/8W Carbon	AA
R511	VRS-CY1JF272J	V 2.7k	1/16W Metal Oxide (VC-H815U/H817U/H818U)	AA	R704	VRD-RA2BE102J	V 1k	1/8W Carbon	AA
R512	VRS-CY1JF272J	V 2.7k	1/16W Metal Oxide (VC-H815U/H817U/H818U)	AA	R705	VRD-RA2BE102J	V 1k	1/8W Carbon	AA
R520	VRS-CY1JF154J	V 150k	1/16W Metal Oxide (VC-H815U/H817U/H818U)	AA	R706	VRS-CY1JF153J	V 15k	1/16W Metal Oxide	AA
R521	VRS-CY1JF473J	V 47k	1/16W Metal Oxide (VC-H815U/H817U/H818U)	AA	R707	VRS-CY1JF153J	V 15k	1/16W Metal Oxide	AA
R601	VRS-CY1JF822J	V 8.2k	1/16W Metal Oxide	AA	R708	VRS-CY1JF102J	V 1k	1/16W Metal Oxide	AA
R602	VRS-CY1JF274J	V 270k	1/16W Metal Oxide	AA	R709	VRS-CY1JF102J	V 1k	1/16W Metal Oxide (VC-H815U/H817U/H818U)	AA
R603	VRS-CY1JF221J	V 220	1/16W Metal Oxide	AA	R710	VRS-CY1JF473J	V 47k	1/16W Metal Oxide	AA
R604	VRS-CY1JF473J	V 47k	1/16W Metal Oxide	AA	R711	VRS-CY1JF473J	V 47k	1/16W Metal Oxide	AA
R605	VRS-CY1JF153J	V 15k	1/16W Metal Oxide	AA	R712	VRS-CY1JF223J	V 22k	1/16W Metal Oxide	AA
R606	VRS-CY1JF273J	V 27k	1/16W Metal Oxide	AA	R714	VRS-CY1JF332J	V 3.3k	1/16W Metal Oxide	AA
R607	VRS-CY1JF561J	V 560	1/16W Metal Oxide	AA	R715	VRS-CY1JF102J	V 1k	1/16W Metal Oxide	AA
R608	VRS-CY1JF472J	V 4.7k	1/16W Metal Oxide	AA	R716	VRS-CY1JF102J	V 1k	1/16W Metal Oxide	AA
R609	VRS-CY1JF333J	V 33k	1/16W Metal Oxide (VC-A415U)	AA	R717	VRS-CY1JF681J	V 680	1/16W Metal Oxide	AA
R610	VRS-CY1JF183J	V 18k	1/16W Metal Oxide (VC-A415U)	AA	R718	VRS-CY1JF182J	V 1.8k	1/16W Metal Oxide	AA
R611	VRS-CY1JF153J	V 15k	1/16W Metal Oxide (VC-H815U/H817U/H818U)	AA	R719	VRD-RA2BE102J	V 1k	1/8W Carbon	AA
R611	VRS-CY1JF393J	V 39k	1/16W Metal Oxide (VC-A415U)	AA	R720	VRS-CY1JF822J	V 8.2k	1/16W Metal Oxide (VC-A415U)	AA
R612	VRS-CY1JF123J	V 12k	1/16W Metal Oxide (VC-A415U)	AA	R722	VRD-RA2BE102J	V 1k	1/8W Carbon	AA
R612	VRS-CY1JF823J	V 82k	1/16W Metal Oxide (VC-H815U/H817U/H818U)	AA	R723	VRS-CY1JF000J	V 0	1/16W Metal Oxide	AA
R613	VRS-CY1JF393J	V 39k	1/16W Metal Oxide (VC-A415U)	AA	R726	VRS-CY1JF103J	V 10k	1/16W Metal Oxide	AA
R614	VRS-CY1JF123J	V 12k	1/16W Metal Oxide (VC-A415U)	AA	R727	VRD-RA2EE151J	V 150	1/4W Carbon	AA
R615	VRS-CY1JF472J	V 4.7k	1/16W Metal Oxide (VC-A415U)	AA	R728	VRS-CY1JF182J	V 1.8k	1/16W Metal Oxide	AA
R616	VRS-CY1JF103J	V 10k	1/16W Metal Oxide (VC-A415U)	AA	R729	VRD-RA2BE154J	V 150k	1/8W Carbon	AA
R617	VRS-CY1JF103J	V 10k	1/16W Metal Oxide (VC-H815U/H817U/H818U)	AA	R731	VRS-CY1JF103J	V 10k	1/16W Metal Oxide	AA
R618	VRS-CY1JF563J	V 56k	1/16W Metal Oxide	AA	R732	VRS-CY1JF223J	V 22k	1/16W Metal Oxide	AA
R619	VRS-CY1JF470J	V 47	1/16W Metal Oxide	AA					
R620	VRS-CY1JF153J	V 15k	1/16W Metal Oxide	AA					
R621	VRD-RA2EE4R7J	V 4.7	1/4W Carbon	AA					
R623	VRS-CY1JF393J	V 39k	1/16W Metal Oxide	AA					
R624	VRS-CY1JF224J	V 220k	1/16W Metal Oxide	AA					
R626	VRS-CY1JF000J	V 0	1/16W Metal Oxide	AA					
R627	VRS-CY1JF332J	V 3.3k	1/16W Metal Oxide	AA					
R653	VRS-CY1JF473J	V 47k	1/16W Metal Oxide (VC-H815U/H817U/H818U)	AA					

**VC-A415U/H815U**  
**VC-H817U/H818U**

Ref. No.	Part No.	★	Description	Code
R734	VRD-RA2BE223J	V 22k	1/8W Carbon	AA
R735	VRS-CY1JF563J	V 56k	1/16W Metal Oxide	AA
R736	VRS-CY1JF123J	V 12k	1/16W Metal Oxide	AA
R737	VRS-CY1JF000J	V 0	1/16W Metal Oxide	AA
R738	VRD-RA2BE104J	V 100k	1/8W Carbon	AA
R739	VRD-RA2BE271J	V 270	1/8W Carbon	AA
R740	VRD-RA2BE104J	V 100k	1/8W Carbon	AA
R741	VRD-RA2BE271J	V 270	1/8W Carbon	AA
R742	VRS-CY1JF473J	V 47k	1/16W Metal Oxide	AA
R743	VRD-RA2BE391J	V 390	1/8W Carbon	AA
R744	VRS-CY1JF473J	V 47k	1/16W Metal Oxide	AA
R745	VRD-RA2BE391J	V 390	1/8W Carbon	AA
R746	VRS-CY1JF103J	V 10k	1/16W Metal Oxide	AA
R748	VRS-CY1JF1R0J	V 1	1/16W Metal Oxide	AA
R750	VRS-CY1JF474J	V 470k	1/16W Metal Oxide	AA
R751	VRD-RA2BE123J	V 12k	1/8W Carbon	AA
R752	VRD-RA2BE123J	V 12k	1/8W Carbon	AA
R754	VRS-CY1JF102J	V 1k	1/16W Metal Oxide	AA
R756	VRS-CY1JF102J	V 1k	1/16W Metal Oxide	AA
R758	VRD-RA2BE103J	V 10k	1/8W Carbon	AA
R760	VRS-CY1JF104J	V 100k	1/16W Metal Oxide	AA
R761	VRS-CY1JF104J	V 100k	1/16W Metal Oxide	AA
R762	VRS-CY1JF123J	V 12k	1/16W Metal Oxide	AA
R763	VRS-CY1JF563J	V 56k	1/16W Metal Oxide	AA
R764	VRS-CY1JF183J	V 18k	1/16W Metal Oxide	AA
R765	VRS-CY1JF223J	V 22k	1/16W Metal Oxide	AA
R768	VRS-CY1JF102J	V 1k	1/16W Metal Oxide	AA
R769	VRS-CY1JF472J	V 4.7k	1/16W Metal Oxide	AA
R770	VRS-CY1JF332J	V 3.3k	1/16W Metal Oxide	AA
R772	VRS-CY1JF822J	V 8.2k	1/16W Metal Oxide	AA
			(VC-A415U)	
R773	VRS-CY1JF222J	V 2.2k	1/16W Metal Oxide	AA
R774	VRS-CY1JF102J	V 1k	1/16W Metal Oxide	AA
			(VC-H815U/H817U/H818U)	
R776	VRS-CY1JF681J	V 680	1/16W Metal Oxide	AA
R777	VRS-CY1JF681J	V 680	1/16W Metal Oxide	AA
R778	VRS-CY1JF104J	V 100k	1/16W Metal Oxide	AA
R779	VRD-RA2BE103J	V 10k	1/8W Carbon	AA
R780	VRD-RA2BE103J	V 10k	1/8W Carbon	AA
R781	VRD-RA2BE103J	V 10k	1/8W Carbon	AA
R782	VRS-CY1JF154J	V 150k	1/16W Metal Oxide	AA
R783	VRS-CY1JF392J	V 3.9k	1/16W Metal Oxide	AA
R784	VRS-CY1JF104J	V 100k	1/16W Metal Oxide	AA
R785	VRS-CY1JF105J	V 1M	1/16W Metal Oxide	AA
R786	VRS-CY1JF564J	V 560k	1/16W Metal Oxide	AA
R787	VRD-RM2HD1R0J	V 1	1/2W Carbon	AA
R788	VRD-RM2HD1R0J	V 1	1/2W Carbon	AA
R789	VRS-CY1JF822J	V 8.2k	1/16W Metal Oxide	AA
R791	VRS-CY1JF1R0J	V 1	1/16W Metal Oxide	AA
R792	VRS-CY1JF473J	V 47k	1/16W Metal Oxide	AA
R793	VRS-CY1JF154J	V 150k	1/16W Metal Oxide	AA
R794	VRS-CY1JF332J	V 3.3k	1/16W Metal Oxide	AA
R795	VRD-RA2BE105J	V 1M	1/8W Carbon	AA
R796	VRD-RA2BE103J	V 10k	1/8W Carbon	AA
R798	VRS-CY1JF102J	V 1k	1/16W Metal Oxide	AA
R813	VRD-RA2BE183J	V 18k	1/8W Carbon	AA
R814	VRS-CY1JF272J	V 2.7k	1/16W Metal Oxide	AA
R815	VRD-RA2BE332J	V 3.3k	1/8W Carbon	AA
R821	VRS-CY1JF183J	V 18k	1/16W Metal Oxide	AA
R822	VRS-CY1JF272J	V 2.7k	1/16W Metal Oxide	AA
R823	VRD-RA2BE332J	V 3.3k	1/8W Carbon	AA
R824	VRS-CY1JF472J	V 4.7k	1/16W Metal Oxide	AA
R825	VRS-CY1JF822J	V 8.2k	1/16W Metal Oxide	AA
R826	VRS-CY1JF103J	V 10k	1/16W Metal Oxide	AA
R831	VRD-RA2BE101J	V 100	1/8W Carbon	AB
R832	VRS-CY1JF103J	V 10k	1/16W Metal Oxide	AA
R833	VRS-CY1JF103J	V 10k	1/16W Metal Oxide	AA
R835	VRD-RA2BE183J	V 18k	1/8W Carbon	AA
R839	VRD-RA2BE102J	V 1k	1/8W Carbon	AA
			(VC-H818U)	
R841	VRD-RA2BE183J	V 18k	1/8W Carbon	AA
R843	VRD-RA2BE474J	V 470k	1/8W Carbon	AA
R845	VRD-RA2BE474J	V 470k	1/8W Carbon	AA
R846	VRD-RA2BE103J	V 10k	1/8W Carbon	AA
R847	VRD-RA2BE474J	V 470k	1/8W Carbon	AA

Ref. No.	Part No.	★	Description	Code
R848	VRD-RA2BE474J	V 470k	1/8W Carbon	AA
R856	VRD-RA2BE102J	V 1k	1/8W Carbon (VC-H815U/H817U/H818U)	AA
R857	VRS-CY1JF102J	V 1k	1/16W Metal Oxide	AA
R858	VRS-CY1JF102J	V 1k	1/16W Metal Oxide	AA
R859	VRD-RA2BE471J	V 470	1/8W Carbon	AA
R860	VRS-CY1JF102J	V 1k	1/16W Metal Oxide	AA
⚠ R904	VRS-VV3DB333J	V 33k	2W Metal Oxide	AA
⚠ R905	VRD-RM2HD154J	V 150k	1/2W Carbon	AA
⚠ R910	VRD-RM2HD390J	V 39	1/2W Carbon	AA
⚠ R912	VRD-RM2HD390J	V 39	1/2W Carbon	AA
⚠ R917	VRS-CY1JF562J	V 5.6k	1/16W Metal Oxide	AA
⚠ R918	VRS-CY1JF000J	V 0	1/16W Metal Oxide	AA
⚠ R921	VRS-CY1JF100J	V 10	1/16W Metal Oxide	AA
⚠ R922	VRS-CY1JF2R2J	V 2.2	1/16W Metal Oxide	AA
R923	VRD-RA2BE102J	V 1k	1/8W Carbon	AA
R924	VRS-CY1JF102J	V 1k	1/16W Metal Oxide	AA
R930	VRD-RA2BE332J	V 3.3k	1/8W Carbon	AA
R931	VRS-CY1JF102J	V 1k	1/16W Metal Oxide	AA
R932	VRD-RA2BE101J	V 100	1/8W Carbon	AB
R933	VRS-CY1JF102J	V 1k	1/16W Metal Oxide	AA
R934	VRS-CY1JF102J	V 1k	1/16W Metal Oxide	AA
R951	VRD-RM2HD152J	V 1.5k	1/2W Carbon	AA
R952	VRS-CY1JF223J	V 22k	1/16W Metal Oxide	AA
R954	VRS-CY1JF561J	V 560	1/16W Metal Oxide	AA
R955	VRS-CY1JF103J	V 10k	1/16W Metal Oxide	AA
R957	VRS-CY1JF472J	V 4.7k	1/16W Metal Oxide	AA
R973	VRS-CY1JF103J	V 10k	1/16W Metal Oxide	AA
R974	VRD-RA2BE222J	V 2.2k	1/8W Carbon	AA
R981	VRS-CY1JF103J	V 10k	1/16W Metal Oxide	AA
R982	VRS-CY1JF561J	V 560	1/16W Metal Oxide	AA
R983	VRS-CY1JF000J	V 0	1/16W Metal Oxide	AA
R991	VRS-CY1JF102J	V 1k	1/16W Metal Oxide	AA
R992	VRS-CY1JF222J	V 2.2k	1/16W Metal Oxide	AA
R993	VRS-CY1JF103J	V 10k	1/16W Metal Oxide	AA
<b>BALUNES</b>				
FB201	RBLN-0036CEZZ	V Balun, BLN-0036CE		AB
FB202	RBLN-0036CEZZ	V Balun, BLN-0036CE		AB
FB203	RBLN-0036CEZZ	V Balun, BLN-0036CE		AB
FB701	RBLN-0036CEZZ	V Balun, BLN-0036CE		AB
FB702	RBLN-0036CEZZ	V Balun, BLN-0036CE		AB
⚠ FB901	RBLN-0036CEZZ	V Balun, BLN-0036CE		AB
⚠ FB902	RBLN-0036CEZZ	V Balun, BLN-0036CE		AB
<b>SWITCHES</b>				
S101	QSW-S0004AJZZ	V Switch, RF Conv. SW		AF
S701	QSW-F0042AJZZ	V Switch, Rec Tip SW		AG
S801	QSW-K0086GEZZ	J Switch, Power		AC
S802	QSW-K0086GEZZ	J Switch, Eject		AC
S803	QSW-K0086GEZZ	J Switch, Set/S-Pic.		AC
S804	QSW-K0086GEZZ	J Switch, CH -		AC
S805	QSW-K0086GEZZ	J Switch, Menu		AC
S806	QSW-K0086GEZZ	J Switch, CH +		AC
<b>MISCELLANEOUS PARTS</b>				
QCNW-0307AJZZ	V Connecting Cord			AD
PSLDM4575AJFW	V Shield			AD
⚠ ACC901	QACCD3049AJZZ	V AC Cord or		AN
⚠ ACC901	QACCD3048AJZZ	V AC Cord		AN
⚠ FH901	QFSHD1013CEZZ	V Fuse Holder		AC
⚠ FH902	QFSHD1014CEZZ	V Fuse Holder		AC
⚠ F901	QFS-B3025CEZZ	V Fuse, 3.0A 125V or		AD
⚠ F901	QFS-A3025CEZZ	V Fuse, 3.0A 125V		AD
J201	QJAKH0011AJZZ	V Jack, Rear AV(VC-A415U)		AK
J201	QJAKL0006AJZZ	V Jack, Rear AV (VC-H815U/H817U/H818U)		AL
J202	QJAKF0065AJZZ	V Jack, Front AV(VC-A415U)		AG
J202	QJAKG0006AJZZ	V Jack, Front AV (VC-H815U/H817U/H818U)		AH
P701	QPLGZ0883GEZZ	J Plug, 8 Pin		AD
P801	QPLGN0347REZZ	V Plug, 3 Pin(VC-H818U)		AA

Ref. No.	Part No.	★	Description	Code
RMC801	RRMCU0081GEZZ	J	Remote Receiver or	AG
RMC801	RRMCU002AJZZ	V	Remote Receiver	AH
SC301	QSOCN0611REN1	V	Socket, 6 Pin(VC-A415U)	AC
SC301	QSOCN0911REN1	V	Socket, 9 Pin(VC-H815U/ H817U/H818U)	AD
SC601	QSOCN0695REZZ	V	Socket, 6 Pin	AB
SC602	QSOCZ0293GEZZ	J	Socket, 2 Pin	AC
SC701	QSOCN0795REZZ	V	Socket, 7 Pin	AC
SC702	QSOCZ0292GEZZ	J	Socket, 2 Pin	AC
SC801	QSOCZ0625CEZZ	V	Socket, 6 Pin	AC
TP201	QPLGN0447REZZ	V	Plug, 4 Pin	AA
W851	LHLDZ1962AJ00	V	Holder	AD
W852	LHLDZ1962AJ00	V	Holder	AD

DUNTK5846TEV1(VC-A415U/H815U)  
DUNTK5846TEV2(VC-H817U/H818U)  
OPERATION UNIT

RESISTORS

R882	VRS-CY1JF472J	V	4.7k	1/16W Metal Oxide	AA
R883	VRS-CY1JF822J	V	8.2k	1/16W Metal Oxide	AA
R884	VRS-CY1JF103J	V	10k	1/16W Metal Oxide	AA
R885	VRS-CY1JF223J	V	22k	1/16W Metal Oxide	AA
R886	VRS-CY1JF103J	V	10k	1/16W Metal Oxide	AA
R887	VRS-CY1JF473J	V	47k	1/16W Metal Oxide	AA
R888	VRS-CY1JF123J	V	12k	1/16W Metal Oxide	AA
R889	VRS-CY1JF563J	V	56k	1/16W Metal Oxide	AA
R890	VRD-RA2BE153J	V	15k	1/8W Carbon (VC-H817U/H818U)	AA
R897	VRD-RA2BE563J	V	56k	1/8W Carbon	AA
R898	VRD-RA2BE223J	V	22k	1/8W Carbon	AA

SWITCHES

S882	QSW-K0086GEZZ	J	Switch, Stop or (VC-A415U/H815U)	AC
S882	QSW-K0004AJZZ	V	Switch, Stop (VC-A415U/H815U)	AB
S883	QSW-K0086GEZZ	J	Switch, Rec or	AC
S883	QSW-K0004AJZZ	V	Switch, Rec	AB
S884	QSW-K0086GEZZ	J	Switch, Pause/Still or	AC
S884	QSW-K0004AJZZ	V	Switch, Pause/Still	AB
S885	QSW-K0086GEZZ	J	Switch, FF (VC-A415U/H815U)	AC
S885	QSW-K0004AJZZ	V	Switch, FF (VC-A415U/H815U)	AB
S886	QSW-K0086GEZZ	J	Switch, Play or (VC-A415U/H815U)	AC
S886	QSW-K0004AJZZ	V	Switch, Play (VC-A415U/H815U)	AB
S886	QSW-K0086GEZZ	J	Switch, FF or (VC-H817U/H818U)	AC
S886	QSW-K0004AJZZ	V	Switch, FF (VC-H817U/H818U)	AB
S887	QSW-K0086GEZZ	J	Switch, REW or (VC-A415U/H815U)	AC
S887	QSW-K0004AJZZ	V	Switch, REW (VC-A415U/H815U)	AB
S888	QSW-K0086GEZZ	J	Switch, Stop or (VC-H817U/H818U)	AC
S888	QSW-K0004AJZZ	V	Switch, Stop (VC-H817U/H818U)	AB
S889	QSW-K0086GEZZ	J	Switch, Play or (VC-H817U/H818U)	AC
S889	QSW-K0004AJZZ	V	Switch, Play (VC-H817U/H818U)	AB
S890	QSW-K0086GEZZ	J	Switch, Rew or (VC-H817U/H818U)	AC
S890	QSW-K0004AJZZ	V	Switch, Rew (VC-H817U/H818U)	AB

Ref. No.	Part No.	★	Description	Code
<b>MISCELLANEOUS PART</b>				
P881	QPLGZ0626CEZZ	V	Plug, 6 Pin	AF
<b>DUNTK5464TEV1(VC-H818U) LOCATOR UNIT</b>				

Q5301	VSDTC124ES/-1	V	DTC124ES	AB
Q5302	VS2SA933SQR1E	V	2SA933SQR	AB
Q5303	VS2SC2498/-1	V	2SC2498	AH

D5301	RH-EX0631GEZZ	J	Zener Diode	AA
<b>COILS</b>				
L5301	VP-XF1R5K0000	V	Peaking, 1.5μH	AB
L5302	VP-XF1R5K0000	V	Peaking, 1.5μH	AB

L5304	RFILA0003GEZZ	J	Filter	AG
<b>CAPACITORS</b>				
C5301	VCKYD41HB102K	V	1000p 50V Ceramic	AA
C5302	VCEA9M1CW106M	V	10 16V Electrolytic	AB
C5303	VCKYD41HB101K	V	100p 50V Ceramic	AA
C5304	VCCSD41HL270J	V	27p 50V Ceramic	AA
C5305	VCCCD41HH1R8M	V	1.8p 50V Ceramic	AB
C5306	RC-QZA223TAYJ	V	0.022 50V Mylar	AB
C5307	VCKYD41HB561K	V	560p 50V Ceramic	AA

R5301	VRD-RA2BE331J	V	330 1/8W Carbon	AA
R5302	VRD-RA2BE103J	V	10k 1/8W Carbon	AA
R5303	VRD-RA2BE103J	V	10k 1/8W Carbon	AA
R5304	VRD-RA2BE472J	V	4.7k 1/8W Carbon	AA
R5305	VRD-RA2BE223J	V	22k 1/8W Carbon	AA
R5306	VRD-RA2BE332J	V	3.3k 1/8W Carbon	AA
R5307	VRD-RA2BE681J	V	680 1/8W Carbon	AA

P5301	QPLGN0347REZZ	V	Plug, 3 Pin	AA
<b>MECHANISM CHASSIS PARTS</b>				

1	LBNDK1011AJZZ	V	Tension Band Ass'y	AH
2	LBOSZ1007AJZZ	V	Tension Arm boss	AD
4	LBOSZ1006AJZZ	V	Cassette Stay L	AD
5	LCHSM0174AJZZ	V	Main Chassis Ass'y	AV
6	LHLDZ2016AJZZ	V	Loading Motor Block	AG
7	LPOLM0070GEZZ	J	Supply Pole Base Ass'y	AK
8	LPOLM0064GEZZ	J	Take-up Pole Base Ass'y	AM
9	MLEVF0518AJZZ	V	Take-up Loading Arm Ass'y	AF
10	MLEVF0519AJZZ	V	Supply Loading Arm Ass'y	AF
11	MLEVF0499AJZZ	V	Pinch Drive Lever Ass'y	AG
12	MLEVF0500GEZZ	J	Pinch Roller Lever Ass'y	AW
15	MLEVF0523AJZZ	V	Tension Arm Ass'y	AH
16	LANGF9620AJFW	V	A/C Head Plate	AG
17	MLEVP0271AJZZ	V	Shifter Drive Lever	AE
18	MLEVP0272AJZZ	V	Pinch Double Action Lever	AD
19	MLEVP0301AJZZ	V	Reverse Guide Lever Ass'y	AL
20	MLEVP0275AJZZ	V	Reverse Drive Lever	AD
21	MLEVP0292AJZZ	V	Slow Brake Lever	AE
22	MLEVP0290AJZZ	V	Open Lever	AD
23	MLEVP0293AJZZ	V	Clutch Lever	AE
24	MLEVP0324AJZZ	V	Supply Main Brake Ass'y	AF
25	MLEVP0325AJZZ	V	Take-up Main Brake Ass'y	AF

**VC-A415U/H815U**  
**VC-H817U/H818U**

Ref. No.	Part No.	★	Description	Code
26	CLEVP0287AJZZ	V	Automatic Head Cleaner Ass'y	AG
27	MSLiP0010AJZZ	V	Shifter	AH
29	MSPRD0175AJFJ	V	Reverse Guide Spring 2	AE
30	MSPRT0402AJFJ	V	Loading Double Action Spring	AE
31	MSPRT0403AJFJ	V	Pinch Double Action Spring	AD
32	MSPRC0213AJFJ	V	Earth Spring	AC
33	MSPRT0416AJFJ	V	Tension Spring	AD
34	NBLTK0067AJ00	V	Reel Belt	AE
35	NDAiV1078AJ00	V	Reel Disk	AE
36	NGERH1293AJZZ	V	Loading Connect Gear	AD
37	NGERH1295AJ00	V	Master Cam	AE
38	NGERH1294AJZZ	V	Casecon Drive Gear	AD
39	NGERH1270AJZZ	V	Take-up Loading Gear	AF
40	NGERH1271AJZZ	V	Supply Loading Gear	AD
41	NGERH1272AJZZ	V	Pinch Drive Cam	AE
43	NGERH1299AJZZ	V	Reel Relay Gear	AE
44	NGERW1070AJZZ	V	Worm Gear	AD
45	NGERW1066AJZZ	V	Worm Wheel Gear	AD
46	NiDR-0018AJZZ	V	Idler Wheel Ass'y	AK
47	NPLYV0162AJZZ	V	Motor Pulley	AD
48	NPLYV0163AJZZ	V	Limiter Pulley Ass'y	AM
49	NROLP0131GEZZ	J	Guide Roller	AL
50	NSFTP0032AJZZ	V	Tension Pole Adjuster	AB
51	MSPRC0217AJFJ	V	Guide Roller Spring	AC
52	PREFL1011AJZZ	V	Light Guide	AE
53	QCNW-8022AJZZ	V	FFC for Drum Motor	AD
55	QCNW-8021AJZZ	V	FFC for A/C Head	AD
56	QPWBF5243AJZZ	V	A/C Head PWB	AE
57	QSOCN0696REZZ	V	Socket, 6 pin	AB
58	RHEDT0036AJZZ	V	Full Erase Head	AM
59	RHEDU0088GEZZ	J	A/C Head Ass'y	AV
60	RMOTM1078GEZZ	J	Loading Motor	AP
61	RMOTN2067GEZZ	J	Capstan D.D. Motor PWM	AY
62	RMOTP1139GEZZ	J	Drum Drive Motor (VC-H815U/H817U/H818U)	AT
62	RMOTP1151GEZZ	J	Drum Drive Motor (VC-A415U)	AT
63	DDRMW0029TEX1	V	Upper and Lower Drum Ass'y(VC-A415U)	BU
63	DDRMW0030TEX1	V	Upper and Lower Drum Ass'y (VC-H815U/H817U/H818U)	BU
65	QBRSK0041GEZZ	J	Drum Earth Brush	AD
66	XBSD26P05J00	V	Drum Drive Motor Mounting Screw (SW2.6P+5S)	AA
67	PGIDC0056GEFW	J	Drum Base	AL
68	QPWBF5468AJZZ	V	PWB(LDG Motor)	AE
69	QPLGZ0292GEZZ	J	Socket(LDG Motor)	AE
70	MSPRC0223AJFJ	V	Azimuth Spring	AC
71	MSPRC0224AJFJ	V	Height Adjusting Spring	AC

### SCREW, NUTS AND WASHERS

201	XBSD26P08000	V	Screw 2.6P+8S A/C Head	AA
202	LX-HZ3082GEZZ	J	WSW 2.6+6 (AC)	AD
203	XJPSD26P06000	V	Screw, 2.6P+6 (For Capstan Motor)	AA
207	XHPSD30P08WS0	V	Screw, C3.0P+8S (For Drum Base)	AA
208	XRESJ30-06000	V	E-Ring, E-3	AA
209	XWHJZ31-03052	V	Washer, W3.1-5.2-0.3	AC
210	XWHJZ31-04052	V	Washer, W3.1-5.2-0.4	AC
211	XWHJZ31-05052	V	Washer, W3.1-5.2-0.5	AC
212	XWHJZ31-06052	V	Washer, W3.1-5.2-0.6	AC
213	XWHJZ31-07052	V	Washer, W3.1-5.2-0.7	AC
214	PSPAP0009AJZZ	V	Reverse Guide Adjusting Nut	AB
216	LX-WZ1041GE00	J	CW 2.6-6-0.5 CAM	AA

Ref. No.	Part No.	★	Description	Code
218	XBSD30P06J00	V	Drum Base Mounting Screw (SW 3P+6S)	AA
219	LX-WZ1098GE00	J	CW 2.6-4.7-0.5 RED	AB
220	LX-BZ3096GEFD	J	Tilt Adjusting Screw	AA
221	XBSD26P06000	V	Azimuth Adjusting Screw 2.6+6S	AA
222	LX-BZ3197GEFD	J	Screw (A/C Head)	AD
223	XWHJZ31-08052	V	Washer, W3.1-5.2-0.8	AC
224	LX-RZ3015GEFJ	J	CS Washer	AB

### CASSETTE HOUSING CONTROL PARTS

300	CHLDX3081TEV2	V	Cassette Housing Control Ass'y	AX
301	LANGF9592AJFW	V	Upper Plate	AL
302	LHLDX1028AJ00	V	Frame (L)	AH
303	LHLDX1032AJ00	V	Frame (R)	AH
304	LHLDX1030AJZZ	V	Holder (L)	AE
305	LHLDX1031AJZZ	V	Holder (R)	AE
306	MLEV0469AJFW	V	Proof Lever (R)	AE
307	MLEV0281AJ00	V	Door Open Lever	AD
308	MSLiF0076AJFW	V	Slider	AK
309	MSPRD0151AJFJ	V	Proof Lever (R) Spring	AB
310	MSPRD0166AJFJ	V	Drive Gear (R) Spring	AE
311	MSPRP0175AJFJ	V	Cassette Spring	AE
312	MSPRT0381AJFJ	V	Double Action Spring	AC
313	NGERH1278AJZZ	V	Drive Gear L	AE
314	NGERH1309AJZZ	V	Drive Gear R	AE
315	NGERR1008AJ00	V	Double Action Rack Gear	AE
316	NGERR3005AJFW	V	Drive Angle Gear	AG
317	NSFTD0041AJFD	V	Main Shaft	AH

### CABINET PARTS

600	GCABA136AJSM	V	Top Cabinet	AT
601	GCABB1223AJKB	V	Main Frame	AQ
602	GCOVA2072AJKZ	V	Antenna Terminal Cover (VC-415U)	AE
602	GCOVA2073AJKZ	V	Antenna Terminal Cover (VC-H815U/H817U/H818U)	AE
603	PSLDM4566AJFW	V	Shield Angle	AD
604	XHPSD26P06WS0	V	Screw	AA
605	XHPSD30P06WS0	V	Screw	AA
606	LANGK0197AJFW	V	Top Cabinet Fix Angle	AG
607	XEPSD30P14XS0	V	Screw	AB
608	LX-HZ3047GEFF	J	Screw	AA
609	XEBS30P12000	V	Screw	AA
610	LX-HZ3087GEFN	J	Screw	AB
612	LHLDX1962AJ00	V	Sensor LED Cover	AD
613	PGUMS0026AJZV	V	Foot Cushion	AB
614	TLABM4184AJZZ	V	Model Label(VC-H817UC)	AC
614	TLABM4185AJZZ	V	Model Label(VC-H818U)	AC
614	TLABM4187AJZZ	V	Model Label(VC-H815U)	AD
614	TLABM4191AJZZ	V	Model Label(VC-A415U)	AD
614	TLABM4205AJZZ	V	Model Label(VC-H818UC)	AD
614	TLABM4207AJZZ	V	Model Label(VC-H815UC)	AD
615	XJPSD30P10WS0	V	Screw	AA

### FRONT PANEL PARTS

500	CPNLC2717TEV1	V	Front Panel Ass'y (VC-H817U)	AU
500	CPNLC2718TEV1	V	Front Panel Ass'y (VC-H818U)	AU
500	CPNLC2719TEV1	V	Front Panel Ass'y (VC-H815U)	AU

Ref. No.	Part No.	★	Description	Code
500	CPNLC2722TEV1	V	Front Panel Ass'y (VC-A415U)	AU
500-1	_____	-	Front Panel (Not Replacement Item)	—
500-3	HDECQ1967AJSA	V	Cassette Flap(VC-H815U)	AH
500-3	HDECQ1970AJSA	V	Cassette Flap(VC-A415U)	AL
500-3	HDECQ2146AJSA	V	Cassette Flap (VC-H817U/H818U)	AH
500-4	HDECQ1976AJSA	V	Window Dec.(VC-A415U)	AN
500-4	HDECQ2148AJSA	V	Window Dec.(VC-H817U)	AH
500-4	HDECQ2157AJSA	V	Window Dec.(VC-H815U)	AH
500-4	HDECQ2166AJSA	V	Window Dec.(VC-H818U)	AH
500-5	JBTN-2940AJSB	V	REC Button(VC-H815U)	AE
500-5	JBTN-2943AJSB	V	REC Button(VC-A415U)	AE
500-6	JBTN-2941AJSA	V	SET-UP Button(VC-H815U)AF	AF
500-6	JBTN-3018AJSA	V	SET-UP Button (VC-H817U/H818U)	AE
500-6	JBTN-2939AJSA	V	SET-UP Button(VC-A415U)AF	AF
500-7	MSPRD0103AJFJ	V	Cassette Spring	AB
500-8	JBTN-3019AJSA	V	PLAY Button (VC-H817U/H818U)	AF
500-9	JBTN-3021AJSA	V	POWER Button (VC-H817U/H818U)	AE
500-10	JBTN-3022AJSA	V	CHANNEL Button (VC-H817U/H818U)	AB
502-1	JBTN-2942AJSA	V	PLAY Button (VC-A415U/H815U)	AH
502-2	LHLDZ2066AJZZ	V	Button Holder (VC-A415U/H815U)	AC

## SUPPLIED ACCESSORIES

### ACCESSORIES

TiNS-3739AJZZ	V	Operation Manual (VC-A415U/H815U)	AG
TiNS-3758AJZZ	V	Operation Manual (VC-H815UC/H817UC/ H818UC)	AK
TiNS-3764AJZZ	V	Operation Manual (VC-H818U)	AG
RRMCG1238AJSA	V	Infrared Remote Control Unit(VC-A415U/H815U)	AV
RRMCG1239AJSA	V	Infrared Remote Control Unit(VC-H817U)	AY
RRMCG1240AJSA	V	Infrared Remote Control Unit(VC-H818U)	BD
QCNW-8115AJZZ	V	75 Ohm Coaxial Cable	AG

### ACCESSORY

**(NOT REPLACEMENT ITEM)**

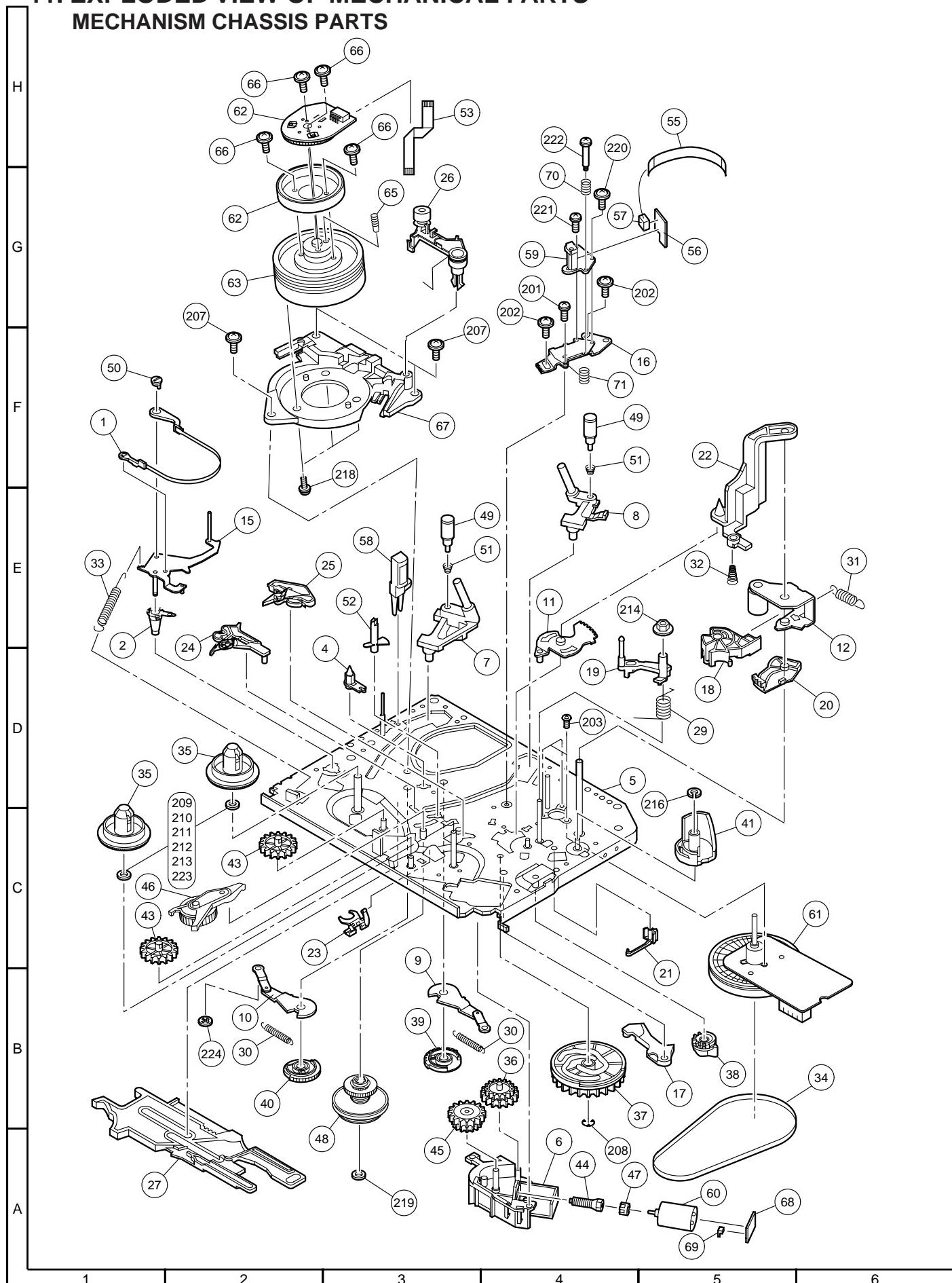
TGAN-0001AJZZ - Warranty Card(U.S.A Only) —

## PACKING PARTS **(NOT REPLACEMENT ITEM)**

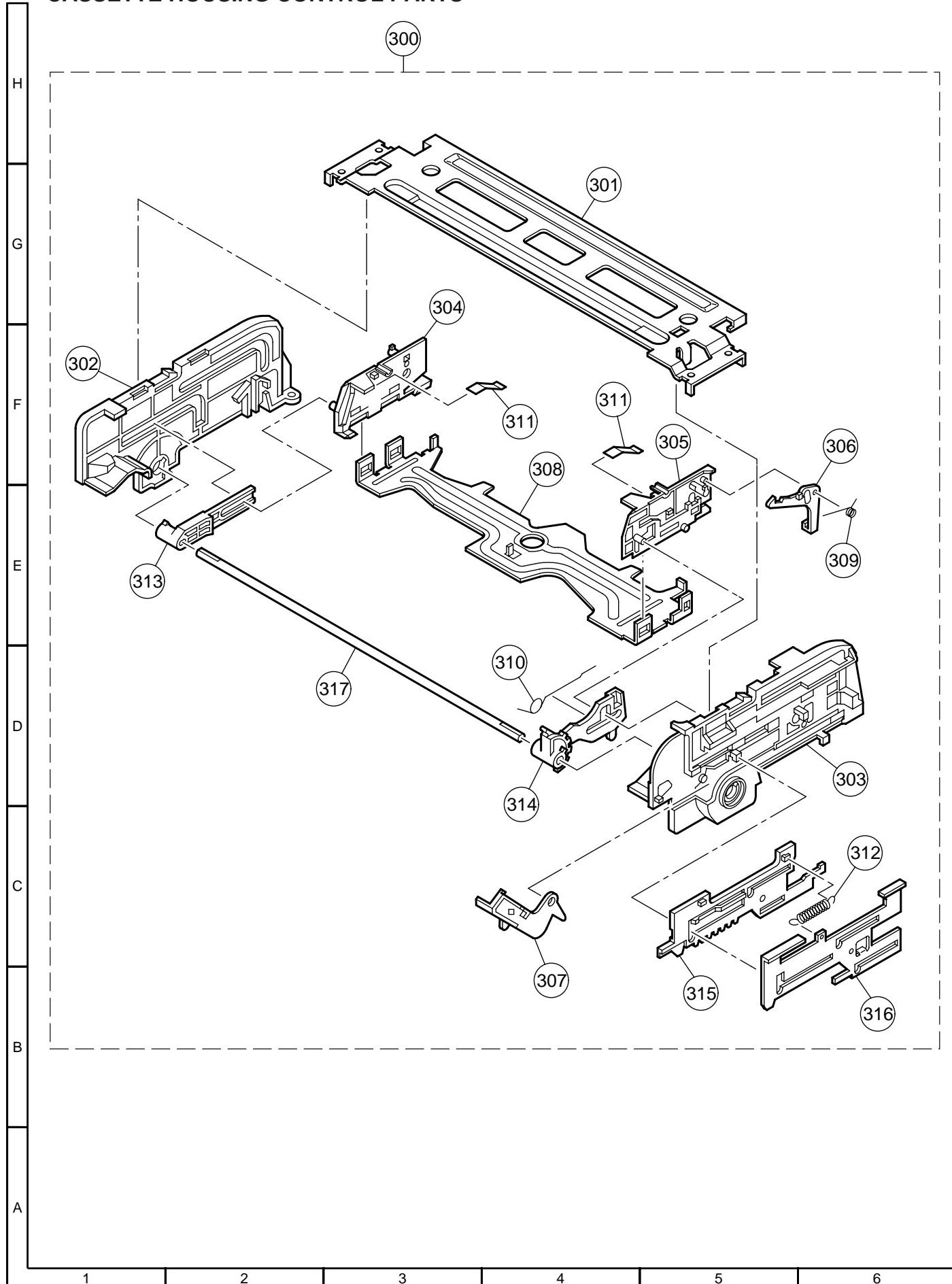
SPAkc4262AJZZ	-	Packing Case(VC-H817U)	—
SPAkc4263AJZZ	-	Packing Case(VC-H818U)	—
SPAkc4265AJZZ	-	Packing Case(VC-H815U)	—
SPAkc4269AJZZ	-	Packing Case(VC-A415U)	—
SPAkx1073AJZZ	-	Packing Add. (VC-A415U/H815U)	—
SPAkx1083AJZZ	-	Packing Add. (VC-H817U/H818U)	—
TlAbk0005AJZZ	-	No. Label	—

## 11. EXPLODED VIEW OF MECHANICAL PARTS

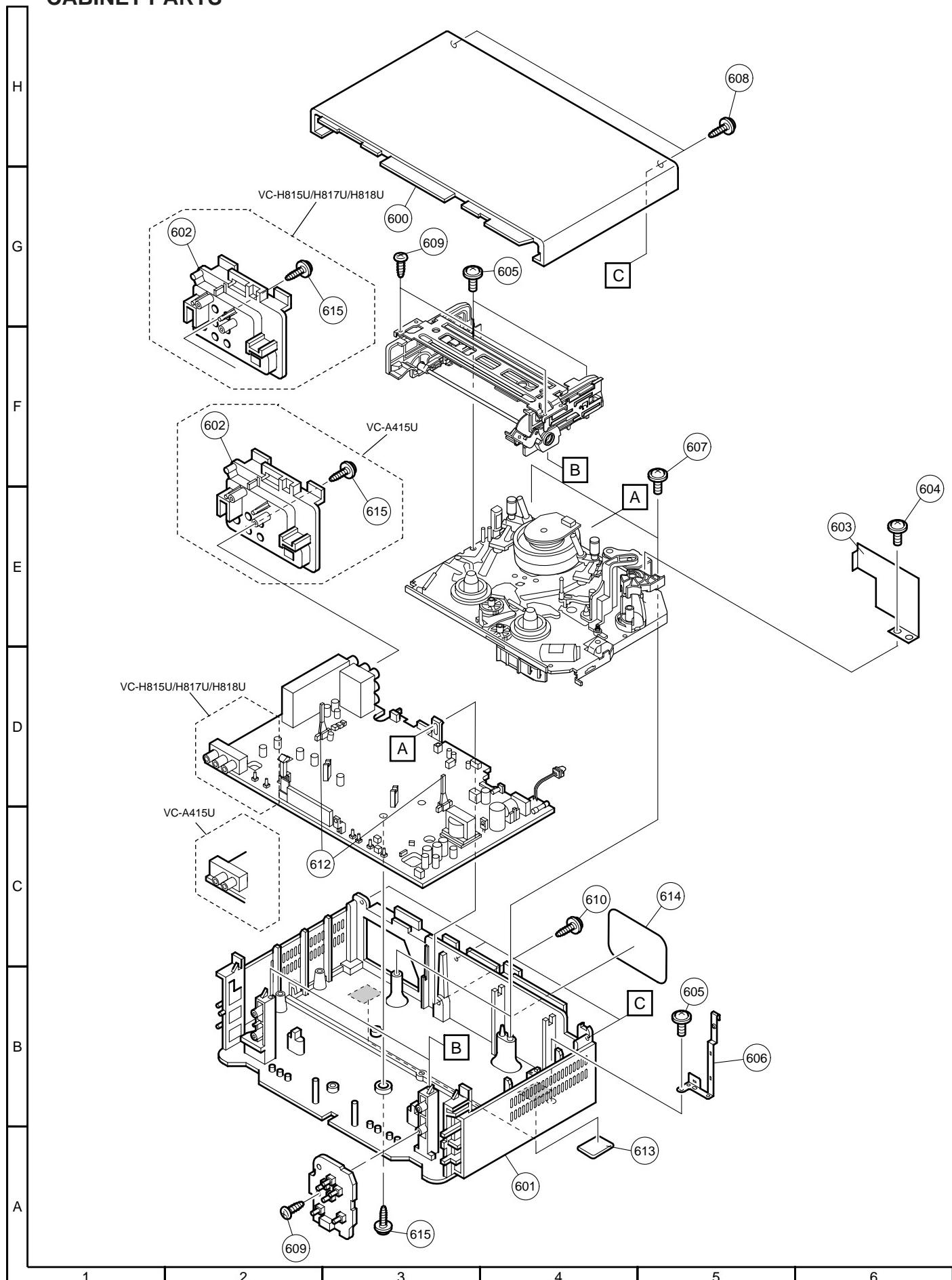
### MECHANISM CHASSIS PARTS



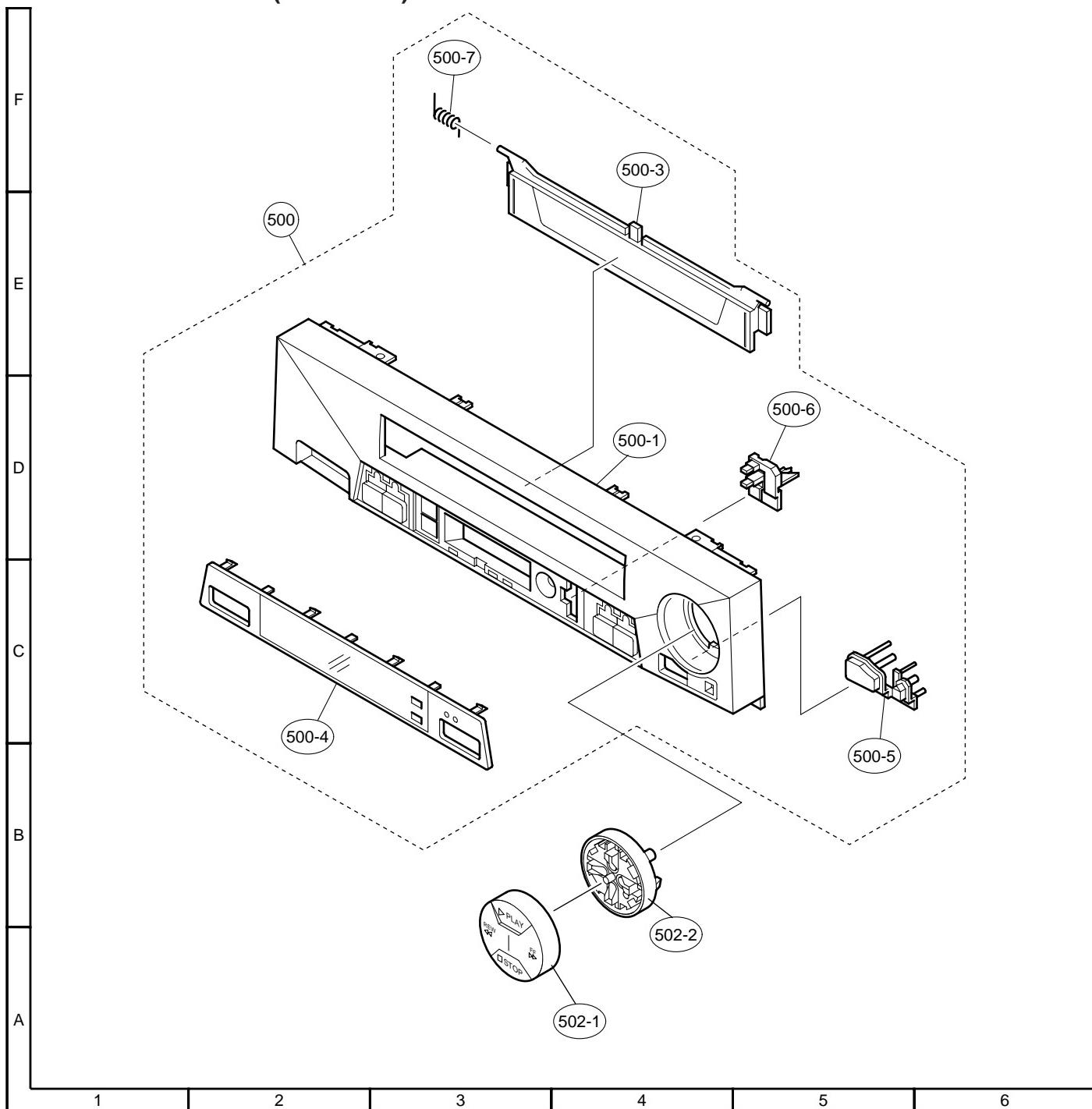
## CASSETTE HOUSING CONTROL PARTS



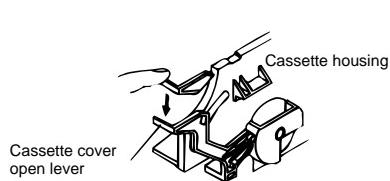
## CABINET PARTS



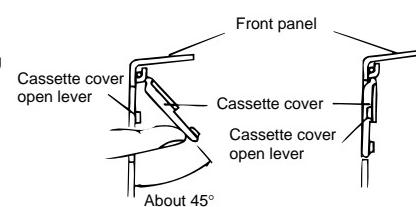
## FRONT PANEL PARTS(VC-A415U)



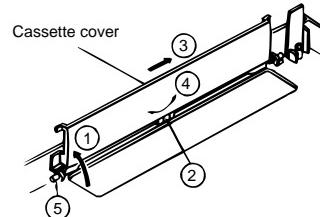
### PRECAUTION ON FRONT PANEL SET-UP



Before attaching the front panel in position, make sure that the cassette cover open lever is in its right place (lower-most). If it is out of position, push it down with a finger.



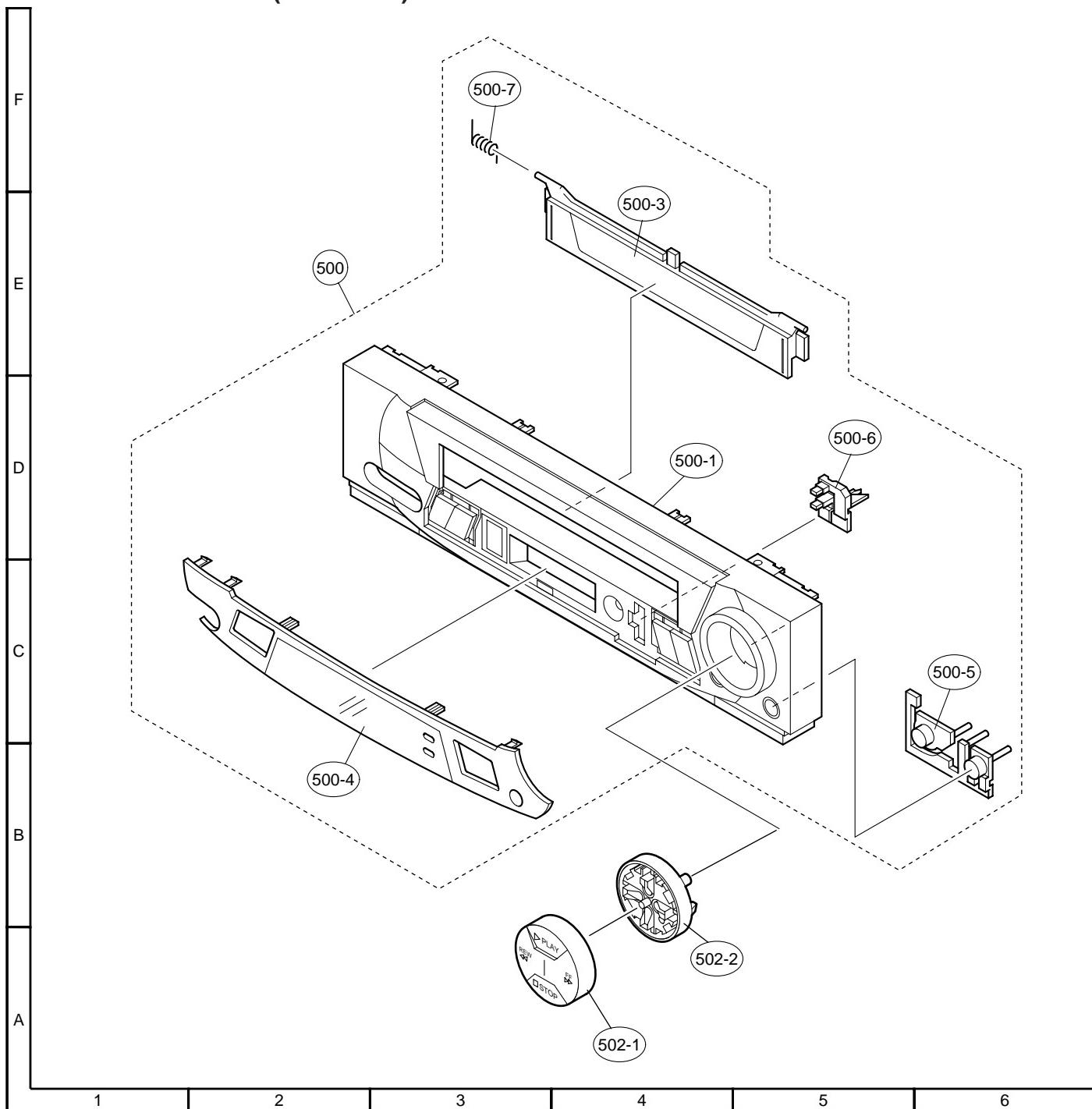
Keep the cassette over about 45° open and make sure that the cassette cover open lever is between the front panel and the cassette cover. Now fix the front panel in place.



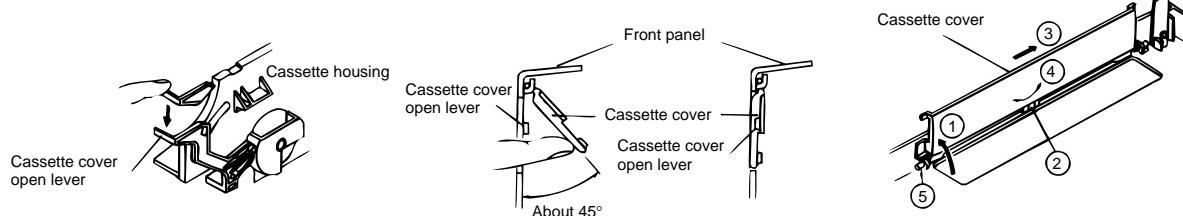
Do not mount the front panel with the cassette cover tilted too open. Otherwise the cassette cover might wrongly run on the cassette housing.

Removing the cassette compartment cover.  
 ① Open the cassette compartment cover fully.  
 ② Remove the center positioner.  
 ③ Slide the cover to the right.  
 ④ Slightly bend the cover.  
 ⑤ Draw out the left-side rod.

## FRONT PANEL PARTS(VC-H815U)



### PRECAUTION ON FRONT PANEL SET-UP



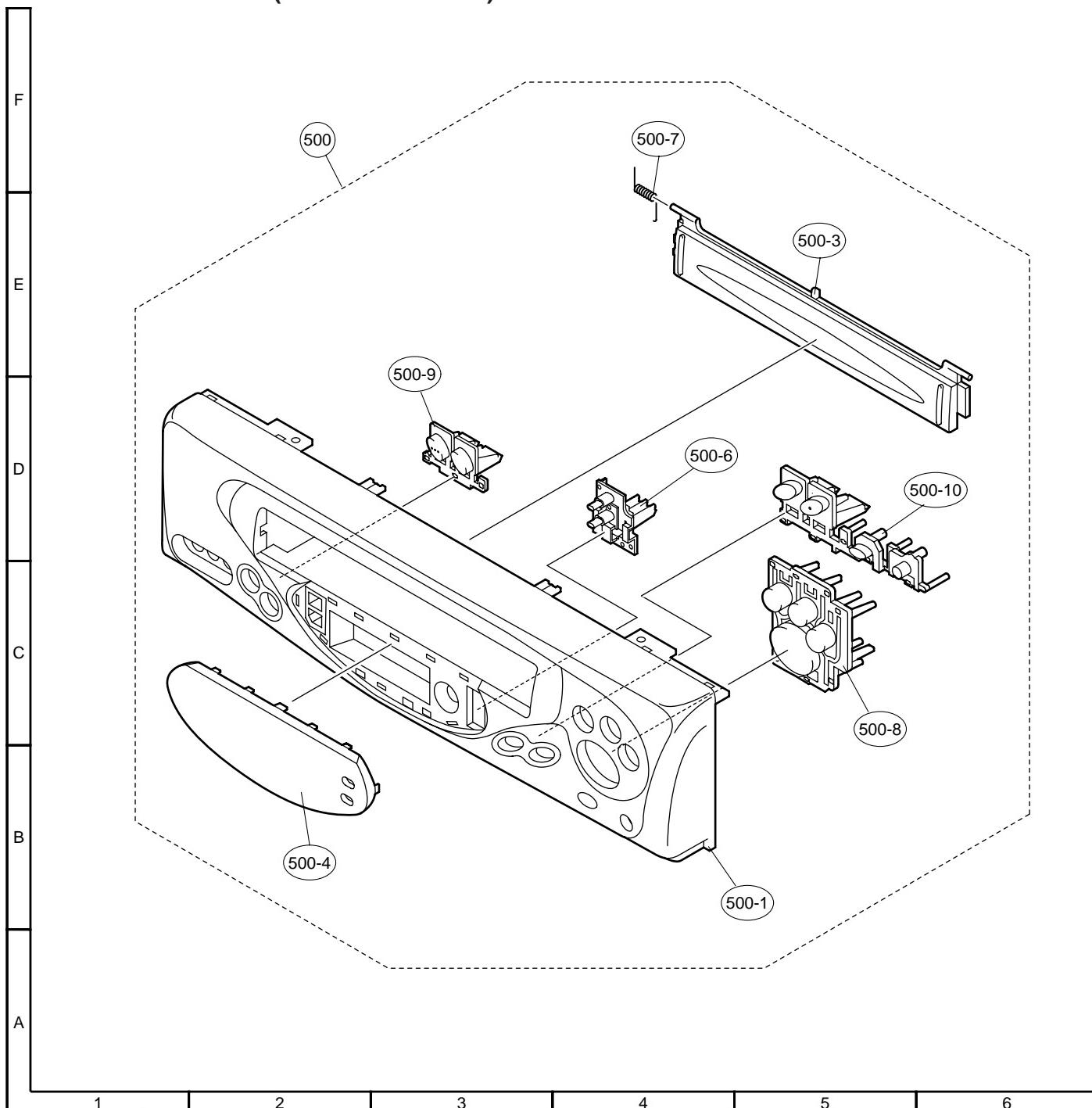
Before attaching the front panel in position, make sure that the cassette cover open lever is in its right place (lower-most). If it is out of position, push it down with a finger.

Keep the cassette over about 45° open and make sure that the cassette cover open lever is between the front panel and the cassette cover. Now fix the front panel in place.

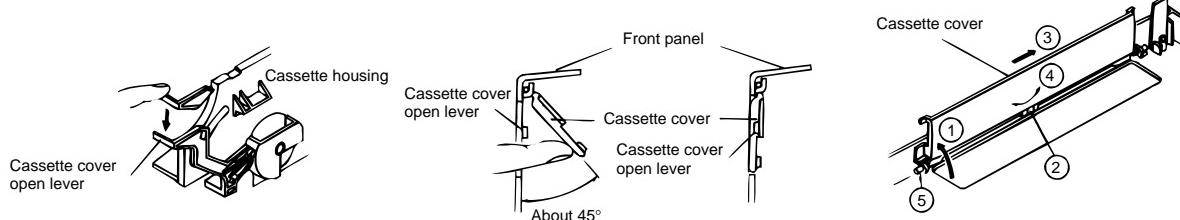
Do not mount the front panel with the cassette cover tilted too open. Otherwise the cassette cover might wrongly run on the cassette housing.

Removing the cassette compartment cover.  
 ① Open the cassette compartment cover fully.  
 ② Remove the center positioner.  
 ③ Slide the cover to the right.  
 ④ Slightly bend the cover.  
 ⑤ Draw out the left-side rod.

## FRONT PANEL PARTS(VC-H817U/H818U)



### PRECAUTION ON FRONT PANEL SET-UP



Before attaching the front panel in position, make sure that the cassette cover open lever is in its right place (lower-most). If it is out of position, push it down with a finger.

Keep the cassette over about 45° open and make sure that the cassette cover open lever is between the front panel and the cassette cover. Now fix the front panel in place.

Do not mount the front panel with the cassette cover tilted too open. Otherwise the cassette cover might wrongly run on the cassette housing.

Removing the cassette compartment cover.  
 ① Open the cassette compartment cover fully.  
 ② Remove the center positioner.  
 ③ Slide the cover to the right.  
 ④ Slightly bend the cover.  
 ⑤ Draw out the left-side rod.

## 12. PACKING OF THE SET

### ■ Setting position of the Knobs

RF conv. CH. preset	at "3" channel
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#### Accessories

TiNS-3739AJZZ

Operation Manual  
(VC-A415U/H815U)

TiNS-3758AJZZ

Operation Manual  
(VC-H815UC/H817UC/H818UC)

TiNS-3764AJZZ

Operation Manual(VC-H818U)  
Warranty Card(U.S.A. Only)

★ TGAN-0001AJZZ

RRMCG1238AJSA(VC-A415U/H815U)

RRMCG1239AJSA(VC-H817U)

RRMCG1240AJSA(VC-H818U)

Infrared Remote Control Unit

★ Dry Battery

QCNW-8115AJZZ  
75 ohm Coaxial Cable

★ SPAKX1083AJZZ(VC-H817U/H818U)

★ SPAKX1073AJZZ(VC-A415U/H815U)

Packing Add.

★ TLABK0005AJZZ No. Label

★ SPAKC4262AJZZ (VC-H817U)  
★ SPAKC4263AJZZ (VC-H818U)  
★ SPAKC4265AJZZ (VC-H815U)  
★ SPAKC4269AJZZ (VC-A415U)

Packing Case

MARK ★ Not Replacement Item

**- M E M O -**

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